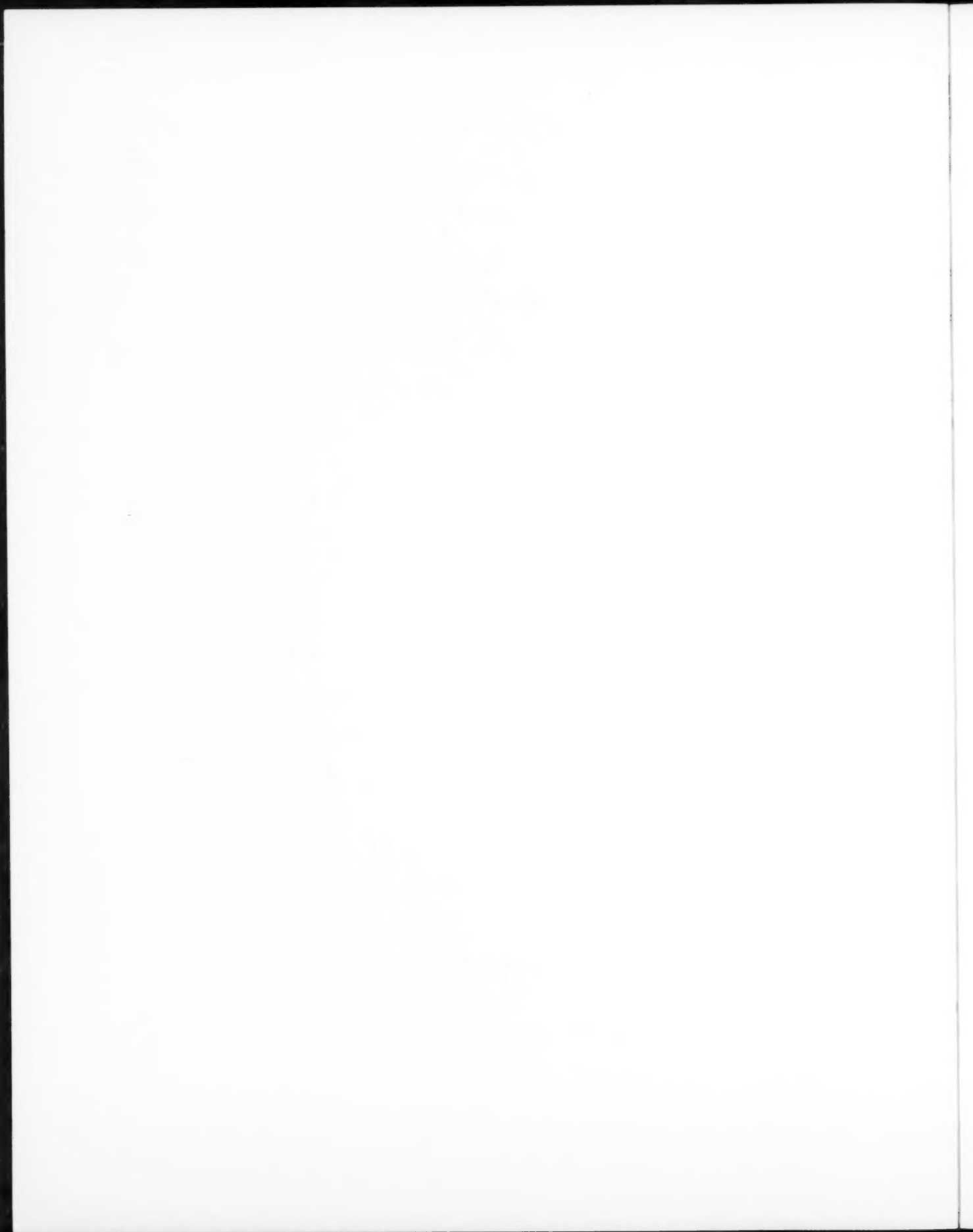


Marsyas



Volume X 1961



Marsyas

STUDIES IN THE HISTORY OF ART

VOLUME X, 1960-1961

1961

PUBLISHED BY THE STUDENTS OF THE
INSTITUTE OF FINE ARTS, NEW YORK UNIVERSITY

DISTRIBUTED BY

J.J. AUGUSTIN PUBLISHER, LOCUST VALLEY, NEW YORK

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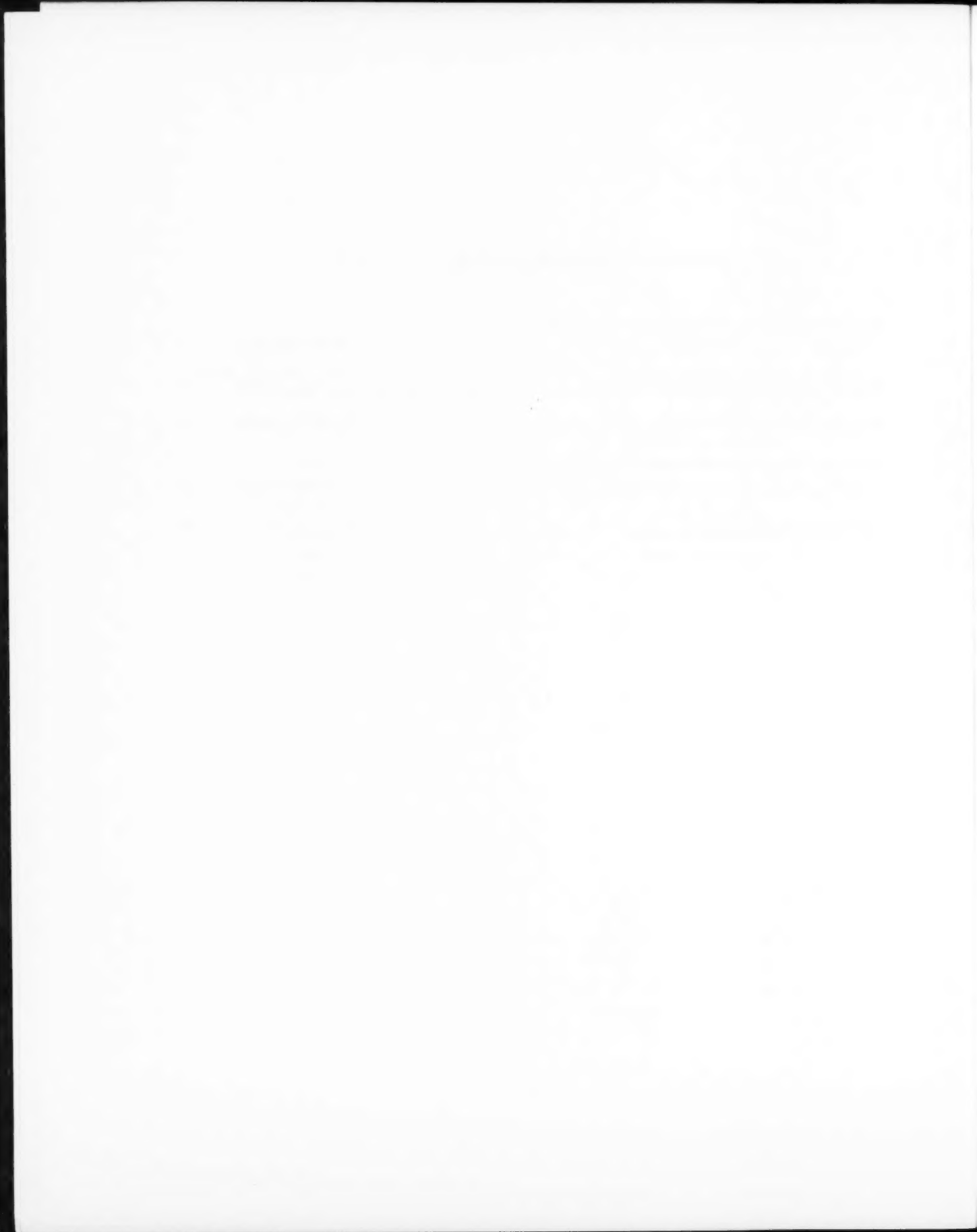
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THE ANTIQUE CHARACTER OF GUARDI'S LANDSCAPE *CAPRICCI*

by BARRY HANNEGAN

In her book on the landscape painting of northern Italy during the eighteenth century, Irene Haumann comments in regard to the landscape *capricci* of Francesco Guardi, "Man könnte . . . mit Wandgemälden pompeianischen Stils in Komposition und Malweise einige Verwandtschaft — allerdings nur mit starken Einschränkungen — feststellen."¹ Having relegated this most interesting observation to a footnote, she says nothing more about it. It would appear that whatever relationship or connection she saw here was one of stylistic similarities only and that there was no suggestion of an actual knowledge of antique painting on Guardi's part that would have exercised an influence on his work.

It had occurred to me quite independently before Haumann's statement came to my attention that there might be some possibility of Guardi's having known and been influenced by Roman painting. The present study is not, and probably cannot be, conclusive, but the question is of sufficient interest to justify this inquiry, which is, in short, a report on the problem of the possible relationships of Guardi's *capricci* to antique Roman landscape painting.

Decisive evidence in the form of either copies by Guardi of antique landscapes or mention by his contemporaries of such works or interest on his part is lacking, but analysis and comparison of style and certain chronological coincidences between archaeological events of the third quarter of the eighteenth century and marked changes in Guardi's oeuvre during the same period suggest there is something to the connection. The stylistic analyses and comparisons deal with Guardi's landscape *capricci* in relation to a selected group of antique landscape representations.

Guardi's nonliteral landscapes and *capricci* are perhaps the least considered of his forms of expression although they may well be the largest single group of works in his total production. The Venetian *vedute* have always been the best known aspect of his oeuvre and are almost the only concern of writers from his own time down to the early years of the present century.²

¹ Irene Haumann, *Das oberitalienische Landschaftsbild des Settecento*, Strasburg, 1927, p. 59, n. 118.

² Guardi fares quite poorly with his contemporary writers on art; frequently he goes entirely unmentioned as in Antonio Zanetti, *Della pittura veneziana e delle opere pubbliche de' veneziani maestri*, Venice, 1771, and in Giovanni Battista Piazzetta, *Studi di pittura*, Venice, 1760, where no landscape painter is included. Stefano Ticozzi, *Dizionario degli architetti, scultori, pittori, etc.*, Milan, 1831, II, p. 223, includes the usual few lines about Guardi's *vedute* and his position as a follower of Canaletto. However, Ticozzi is unusually appreciative of Guardi's brilliance and vivacity of style. Although Simonson (*Francesco Guardi*, London, 1904) is the first of the modern, analytical authorities on Guardi, his work preserves the traditional emphasis on the *vedute*; he does, however, illustrate a number of the *capricci*.

Although almost every twentieth-century writer on Francesco has been sensitive to the great charm of the *capricci*, only a very few authors, notably Byam Shaw, have enquired at all deeply into this segment of Guardi's work.³ Haumann's comment, quoted above, appears to be the only reference in Guardi literature that suggests a recognition of the similarities which form the basis of this study.

The term *capriccio* is a convenient and rather imprecise generic designation for a large group of paintings, drawings, and prints produced during the eighteenth century by Italian artists, most often of Venetian origin. The one element that all these works share is that they appear to be the products of rich imaginations that defy or disregard the confining exigencies of reality. K. T. Parker has reminded us that four great figures of Venetian settecento art—Canaletto, Guardi, Piranesi, and Tiepolo—all produced *capricci* which, except for their underlying fantasy, differ considerably from artist to artist.⁴

Byam Shaw has divided the *capricci* of Francesco Guardi into two subject types, the architectural and the romantic.⁵ The architectural variety includes all those that depend solely on a combination of architectural elements for their subject matter; quite often there are strong suggestions and recollections of Venetian monuments, always, however, represented out of context and often altered in appearance. This variety finds close parallels in the *capricci* of other settecento masters, most notably in those of Canaletto, although the architectural fantasies of Pannini and of Marco and Sebastiano Ricci all belong to this general type. If the literal *veduta* contributed to the formation of this type of *capriccio*, so too did late Baroque stage design. Certain of Guardi's structural fantasies suggest a small corner of a Bibiena-like fabric, and Guardi often adopts the diagonal composition of the *scena per angolo*, so closely associated with the Bibiena family.⁶ Within the limits of an intimate scale and scope, Guardi rivals the similarly unfeasible inventions of Piranesi.⁷

However, it is the romantic *capriccio*, an idyllic landscape in which architectural and natural elements are combined in an imaginative, fanciful manner, that forms the subject of this study.⁸ The type is well represented by a rather large pen and wash drawing in an Amsterdam collection (*fig. 1*). This view of a lagoon spotted with small islands is a typical instance of Guardi's interest in the littoral as subject matter. Here, although the islands and spits of land immediately claim our attention because of the emphasis given them by their contents and wash values, water forms the vastly greater area of the view. But from the point of view of the total contents, the

³ J. Byam Shaw, *The Drawings of Francesco Guardi*, London, 1951, *passim*, but especially pp. 29–32.

⁴ Karl Theodor Parker, *The Drawings of Antonio Canaletto... at Windsor Castle*, London, 1948, p. 25.

⁵ J. Byam Shaw, *op. cit.*, pp. 29, 31.

⁶ A. Hyatt Mayor, *The Bibiena Family*, New York, 1945, pp. 22–24.

⁷ Compare Hylton Thomas, *The Drawings of Giovanni Battista Piranesi*, New York, 1954, pl. 33 and pl. 27b with respectively Shaw, *op. cit.*, pl. 61 and Fiocco, *Francesco Guardi*, Florence, 1923, pl. 88.

⁸ For an extended analysis and comparison of the works of other eighteenth-century landscape and *capriccio* painters, see the author's thesis *The Landscape Capricci of Francesco Guardi: An Inquiry into Their Stylistic and Historical Relationships to Antique Roman Landscape Painting*, Institute of Fine Arts, New York University, 1960. It is sufficient to note here that the elements of Guardi's style and the specific character of his *capriccio* subject matter are uncommon or, more often, absent in the rather diverse manners of his contemporaries; his romantic *capricci*, viewed *in toto*, are unique in his time and, indeed, in the entire genre of the imaginative landscape.

land areas are far more important. They are also responsible for determining the composition and organization of the scene.

The composition is basically one of foreground, middleground, and distance. One "enters" the landscape at the lower right where the large, ragged black form establishes the foreground. Since the spit immediately beyond appears to be contiguous, or at least quite close, to the dark mound, it also may be considered foreground. The middleground is formed by the large land area at the left with its burden of obelisk, umbrella pine, and the cluster of buildings, all of which, by means of the size and distinctiveness of their forms, create the composition's focal point. Distance is constituted by a remote island which bears among its several buildings a tall, square tower. The viewer's eye follows areas of dark ink from right to left to right, again, into the distance, and then comes back to its starting place through the felucca and figures in the middleground at the extreme right.

An analysis of the construction of the scene reveals an approach toward spatial representation that appears again and again in Guardi and indeed forms one of the basic characteristics of his landscape style. All the land areas are given long, fingerlike shapes which are placed parallel to one another, parallel to the bottom margin of the drawing, and parallel to the picture surface itself. Each of these ribbons of ground establishes its own plane within the composition and functions somewhat as a threshold which we must cross in order to move deeper into the landscape and which invites us to do so. Stage flats provide a graphic analogy to this method of pictorial construction. The surface of the sea or the stage has a completely negative spatial character until the additions of spits of land or flats of wood and canvas establish points of reference from which we can read the third-dimensional scope of the scene.⁹

The disposition of light and its way of striking surfaces heightens the stage-like aspects of the view. There is relatively little internal modeling in any of the forms; the variation of tone in the areas of uneven ground is hardly sufficient to give them any real three-dimensional qualities, and the almost monochrome values of the obelisk, round tower, and walls barely suggest either mass or spatial recession.

If a planar arrangement or a general lack of plasticity in what are ostensibly three-dimensional forms is not immediately apparent in the landscape of fig. 1, both characteristics can be seen quite clearly in fig. 2. Here there are unmistakably four planes and a backdrop. The foreground plane consists of the tent-like structure, a typically moribund pine tree, and the ground on which they stand. Across the inlet and further into the depth of the painting lies the second plane or flat—the quay, wall, and pedestal and urn. Beyond this is the third plane, whereon are painted the large architectural grouping and a cluster of sailing vessels. The horizon with its fringe of sails constitutes the final plane before the concluding backdrop of the sky is reached. Guardi has stressed this planar arrangement by markedly changing the tonality of the sea along lines that correspond exactly to the placement of the second and third planes.

⁹ For brief but interesting comments on planes in Guardi and settecento design, see Michelangelo Muraro, "An Altar-piece and other Figure Paintings by Francesco Guardi," *Burlington Magazine*, C, 1958, pp. 3, 4.

This landscape will serve to illustrate further Guardi's characteristic uses of light. A strong light enters the scene at a rather low angle from the left and, by the sharp, exaggerated division of tonal areas, confers upon individual forms what little three-dimensional appearance they have. However, there is no assurance given us that these forms really have a three-dimensional mass. Could we pass around to the other side of the large, square pedestal, it is almost as if we would see not the other two sides but simply the interior of the two sides shown in the painting. It would be, in short, just another stage prop. The evenness of tonality over a wide area, as in the group of buildings at the left or, in a smaller area, in the foreground mound, is largely responsible for the marked absence of depth or surface contour in what we know to be three-dimensional forms.

In a specific way, the contrast between light and dark sides is used for compositional purposes. In the plane of the pedestal, wall, and quay, the shadow values are sufficiently close to blend the various elements into one dark surface that without close attention appears unbroken. The brilliantly lighted narrow edges of the components of this group serve to accent the planar nature of their disposition. That Guardi has chosen to extend this strip of light out onto the surface of the sea and *across* the trunk of the pine tree, which properly belongs to the first plane, would seem to support the assumption that he employs contrasting areas of unvaried values for compositional and decorative ends perhaps rather more than for purely representational purposes.

It is only in a general way, of course, that the values of contrasting areas are unvaried. Within each are delicate surface modulations that are the very fabric of Guardi's painting style in the *capricci*. They are born of the combination of light and air, to which he is unfailingly sensitive, and of the changing textures of objects as he brings them out, especially in the case of old walls, for example. We shall have more to say of this.

It remains true, however, that the lighting is arbitrary, and the way in which it tends to cover whole surfaces with an even value and to deny mass points up another of the distinctive features of Guardi's *capricci*, and that is the choice and organization of their contents. Each element—in itself often rather simple—is placed and lighted for a heightened pictorial effect. Architectural forms are loosely grouped, but their juxtaposition is not dictated by consideration of reality, of structure, or of function; it is the artist's wish for visual richness and variety that determines their placement. The grouping at the left in fig. 1 may appear, at first glance, to be a physically coherent representation, but on closer inspection, it dissolves into an agglomeration which is cohesive only because of the components' relationship on paper. The round tower with corbeled parapet and the wall beneath it would appear, on the basis of the scale of the small boat in front of them, to be situated deep within the scene; however, they are actually located on the same plane as the obelisk, tree, and their accompanying figures as we may be sure because they occur no higher on the paper than does the obelisk. In much the same way, the very small tower and shed on uneven ground at the far left appear to be, because of their scale, at a great distance, and yet they are only slightly larger than human figures much more remote, and actually form part of the middleground. It seems most likely that Guardi's concern lies with the selection and decorative arrangement of interesting, striking, but not necessarily related forms.

The specific nature of the content of the *capricci* is best left for consideration until later in this study, where it will be discussed in relation to the subject matter of antique landscapes. However, it is necessary to mention here that the elements of landscape, buildings and the like, in Guardi's imaginary views are rather small in relation to the total area of the drawing or painting and that because of this smallness, he is able to incorporate a great many objects into a single composition. A picture is often filled from side to side with a number of objects and shapes (all acceptable within a landscape context), and these, as we have seen, may have only an incidental spatial relationship. The arbitrary, rather selective light of the *capricci*, especially the painted versions, pinpoints those scattered, varied forms and emphasizes and isolates them still more from their settings.

Although Guardi did not deny the forms in his paintings a rather uncertain, unstable three-dimensionality, it appears that he also took some special care to stress the outline of a form, its two-dimensional character. Hence silhouette assumes an importance as a distinguishing feature of the style of the *capricci*.¹⁰ This is consonant with the light which stresses geometric surfaces.

In fig. 1, the lion statue is shown in lateral profile, which is a more "legible" aspect than either full-face or an oblique view. The obelisk is represented almost solely in two dimensions; there is only the slightest suggestion of actual mass. From a formal point of view, the tree is little more than an arabesque, and because of its considerable height, one would expect to see something more of the underside of the crown rather than the near profile given us. Similar features might be pointed out in fig. 2, most particularly the wispy, linear tree in the foreground, the tented, drying sail, the urn on its pedestal, and the skyline of the architectural complex in the left distance.

The forms that Guardi chooses over and over again to include in the *capricci* are usually ones that may be identified from their silhouettes, which, in turn, often have a distinct decorative value. Objects that appear the same no matter from what angle they are seen, such as urns, domes and cupolas, round towers, and posts, are part of his standard repertoire. Structures of square plan—houses, square towers, pedestals, and obelisks—are most often shown *en face*, or nearly so. If such a structure should be represented in a perspective view, the two visible walls seem to exist quite independently of their real function, which is, of course, to suggest the fully plastic character of the form of which they are parts. While certain forms, particularly feluccas and stunted or broken trees, do not exhibit a symmetry through 360 degrees, they do afford from any vantage point a distinctive and decorative silhouette. If a certain view of an object will reveal its most identifiable and characteristic profile, it is in this aspect that Guardi depicts it; this is especially the case with bridges and archways.

If one were to summarize the really essential characteristics of Guardi's style as it appears in the *capricci*, they would surely be his preoccupation with flat surfaces and planes and the several related uses to which light is put. The use of planes is, as I have tried to show, of two kinds. The first and more apparent is the successive layers that move from picture surface into depth and that are largely responsible for spatial recession in the compositions. The second is evident in

¹⁰ Irene Haumann, *op. cit.*, p. 58.

Guardi's attention to the isolation of each plane in a way that minimizes plasticity and, often, perspective depth. To cite one more instance of this practice, one need only point to the drying sail in the foreground of fig. 2. It is of an almost even value, which makes little distinction between fore and rear edges. In order to deny further a palpable sense of a third dimension to the sail-tent, Guardi has arranged the supporting poles in such a way that they appear to converge toward the viewer, rather than toward the distance as one would expect. Hence, the two "sides" of the sail are tipped up and, because of their even value, seem to lie on the surface of the painting rather than to function as a space-filling, space-defining form.

The dual function of light—to treat whole areas as one surface and to impart to selected forms a kind of quasi-three-dimensionality—has already been noted. Guardi's choice and arrangement of contents is responsible for that accumulative fullness that is often noted in his landscapes. It is the combination of his particular choice of forms and the flattening nature of the light that makes silhouette so important a feature of the *capriccio* style.

Perhaps the best way of pointing out the various similarities that I believe exist between Guardi's *capricci* and antique Roman landscapes is to consider individually several of the ancient representations and to analyze them in much the same manner as were Guardi's works. Where there are specific points for comparison—contents or a distinctive use of some particular feature—the pertinent *capriccio* will be cited. It is by means of such a juxtaposition of like elements from the two groups of landscapes that the essential similarity between them is made most graphic.

The Roman paintings used for comparison are all from the area around Pompeii and were published in engraved form during the eighteenth century in the *Antichità di Ercolano*, the earliest important work treating the discoveries at Herculaneum and Pompeii. Of this series, the first four volumes, published between 1757 and 1765, were given over solely to painting. This work has been used as the source of the antique paintings cited here because it forms a rather good index to the type and quantity of ancient landscapes known to the mid-eighteenth century.

Fig. 3 is one of approximately forty small, vignette-like sacred or idyllic landscapes from the *Antichità* and represents rather well the essential characteristics of the entire group. The most immediately striking feature of the scene is the strong light that stresses the forms in the foreground and surfaces situated parallel to the picture surface. Although there are portions of the architecture that move backward into depth, these surfaces are minimized to a very great degree by their low value which corresponds closely to the dark background. Hence, only small, self-contained forms, such as the trellis and awning, figures, and statue, and two-dimensional shapes repeating the direction of the painted surface constitute the striking elements of the composition. These essentially flat, or flattened, forms, which are spread from one extremity of the view to the other and which in this manner stress the shallow, non-plastic aspects of the landscape, are almost the dead white of the paper of the engraving. This scattering of accents produces a diffuseness and fullness remarkable in a scene of such small area and creates a pattern of lights that almost seems to float on the dark ground.

One cannot deny that there is more than slight suggestion of spatial recession in the representation, but the principal means of expressing depth (the receding lateral walls) is negated not only by shadow of a single value, as noted above, but by the conventionalized perspective rendering of the antique artist. The three major architectural elements—the fragment of the balustrade, the shrine, and the long hall—are basically shown *en face*; any building seen in this way can exhibit only one side to the spectator. The character of these architectural forms and their place in the composition are established by the lighted elevations while the arbitrarily varying extensions of their sides only suggest an implied mass, in short, a quasi-three-dimensionality.

This antique landscape offers numerous analogies to the Guardi *capriccio* of fig. 2. Aside from the immediately evident and general similarities of planar emphasis, strong and accenting light, and varied silhouette, there are specific points of comparison in the subject matter. Most noticeable among these are the awning of the Herculaneum panel and the draped sail of the Guardi. The architectural groupings, an assemblage of square towers and pierced, unarticulated walls, are much alike, although in the Herculaneum example, the forms lack the physical contiguity that they appear to have in the Guardi landscape. A portion of wall with unusually tall and narrow openings appears in both scenes: in the Guardi, to the left of the tallest tower, and in the antique view, in the distance to the right of center. There is a remarkable consonance of form between the cypresses of the Roman landscape and the felucca sails of the Guardi; they both contribute an uniquely sharp element to the skyline.

Another of the Herculaneum panels (fig. 4) provides additional material for comparison with fig. 2. As far as the essential characteristics of Guardi's style are concerned, they are all present to varying degrees in this Roman scene. A planar arrangement of contents and space is perhaps the least evident, but it seems not incorrect to see the statue at the left and the pedestal, urn, and figures at the right as a foreground plane, the strange "balancing rock" with its superincumbent shrine as a second layer, and the hillock and trees as a final, third layer. The accenting, strong light, the accumulative composition, and the importance of silhouette are sufficiently apparent to render further analysis unnecessary.

However, there are several elements within the antique landscape which deserve special attention because of their close similarity to objects in the Guardi of fig. 2. The most immediately striking of these is the urn on pedestal, which appears also in a variation of fig. 2 in the Montelano Collection, Madrid (fig. 5).

Possibly the most intriguing point of comparison common to the five illustrations already cited and to numerous subsequent ones is the figures that inhabit these landscapes. Guardi's humans are sufficiently enigmatic, but when one finds them in the Herculaneum paintings, the puzzle is compounded, not solved. In both instances, they are small and are subordinate to the major elements of the view. Their activities and very forms are often indefinite, as are also their relationships to one another. They are usually bulky shapes that taper markedly and rather elegantly toward the feet. A limited number of stereotyped poses are found in both groups of paintings. The stance of the worshipper at the right of fig. 4 is closely approximated by the

woman with a basket in the foreground of figs. 2 and 5, and somewhat less by the fisherman at the far right of the latter Guardi. This last figure holds one of the rods that are ubiquitous in both Guardi and in the antique paintings. Hardly any of the examples fail to include at least one figure with a fishing rod, a carrying pole, or a staff.

The Herculaneum landscape of fig. 4 is in some ways analogous to a Guardi drawing in the Correr Museum, Venice (*fig. 6*). To begin with, their compositions are essentially the same. Repoussoirs (foliage in the Guardi, sculptural forms in the Roman landscape) enclose the foreground at right and left and are separated by a shallow, non-descript depression. The major element of the composition occurs at the left middleground, while beyond and to the right, across an empty, ill-defined area (a lagoon in the Guardi), hills conclude the view. The small, porticoed temple at the left of fig. 4 has a close counterpart in the Guardi of fig. 6 where in almost identical perspective and proportion, a temple-like basilica with pilasters on its longer side occupies a similar position on the left. The terrain of both landscapes is broken into pronounced, angular terraces and banks.

A particularly striking series of similarities of subject matter and composition may be observed in figs. 7 and 8. The subject of both is two fishermen, posed on a small island, with other islets, buildings, and vegetation to the sides and distance. The greatest difference between the two lies in the varying approach to spatial representation. In the Herculaneum example, as objects recede into depth, they also rise noticeably toward the top of the panel; this allows the buildings on the more distant islands, at the top, to be represented in considerable detail, since there is no need for a consistent scale and there are no intervening objects.

With Guardi's low horizon (and heritage of Renaissance perspective), it becomes necessary to collapse, as it were, the arrangement into his customary planes, here a simple matter of foreground and distance. It may be convenient to think of the Herculaneum panel as being painted on celluloid which Guardi has cut into horizontal strips and arranged one behind the other. However, it should be noted here that, as with the majority of Guardi's landscapes, there is very little overlapping or superimposition of planes. The base line of each plane, quite often a shoreline, is placed high enough on the paper or canvas so that it is not obscured by the forms of the preceding planes.

The correspondence of subject matter, however, is very striking. The two fishermen, one with net and one with rod, are situated on a small eminence of an islet or peninsula. The abbreviated tree at the left of the panel has a close counterpart in the lanky growth at the right of the Guardi; both serve the formal function of repoussoir. As an inexact equivalent to the more remote islands of the Herculaneum scene, Guardi closes his view with a distant landscape of foliage, structures, and a mountain. It appears that the aedicula of two columns and architrave in the foreground of the antique landscape also had its duplicate in the Guardi. At the left of the latter, one can discern a pair of columns with lintel. They are partly erased and partly crossed out and, in fact, now lie almost completely outside the penned line that Guardi used to establish the drawing's left margin.

Among the numerous island landscapes of Guardi, there occurs one (*fig. 9*) in which appears a tree much like that at the left of fig. 8. Aside from their common purpose of repoussoir, the

THE ANTIQUE CHARACTER OF GUARDI'S LANDSCAPE CAPRICCI



Fig. 1. Francesco Guardi, Capriccio, Amsterdam, Kramarsky Collection.



Fig. 2. Francesco Guardi, Capriccio, Bergamo, formerly Moroni Collection.

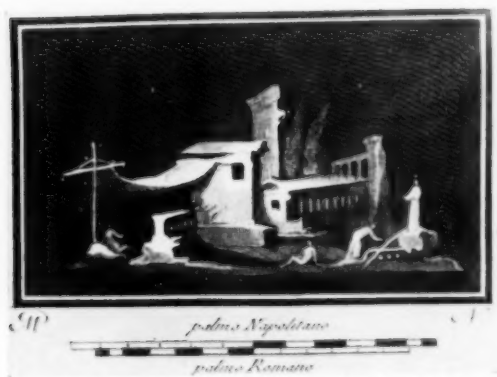


Fig. 3. Roman landscape, engraving from *Antichità di Ercolano*.

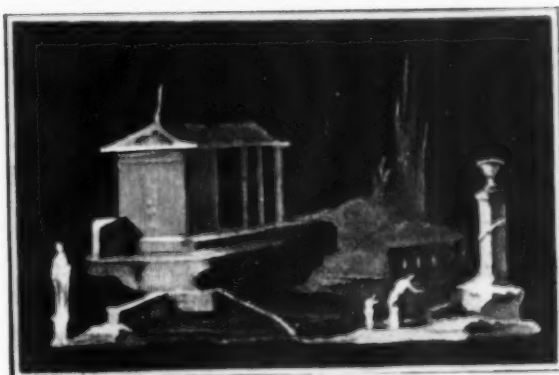


Fig. 4. Roman landscape, engraving from *Antichità di Ercolano*.



Fig. 5. Francesco Guardi, Capriccio, Madrid, Montellano Collection.

THE ANTIQUE CHARACTER OF GUARDI'S LANDSCAPE *CAPRICCI*



Fig. 6. Francesco Guardi, Capriccio, Venice, Museo Correr.

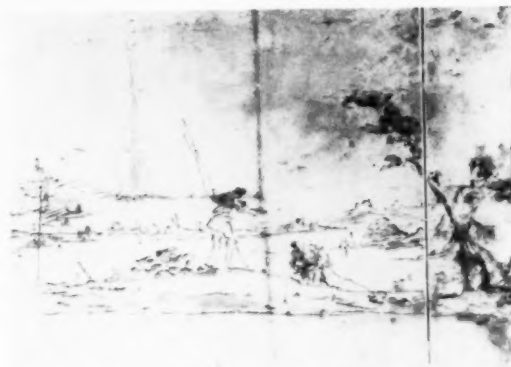


Fig. 7. Francesco Guardi, Capriccio, Venice, Museo Correr.



Fig. 8. Roman landscape, engraving from *Antichità di Ercolano*.



Fig. 9. Francesco Guardi, Capriccio, Venice, Museo Correr.



Fig. 10. Roman landscape, engraving from *Antichità di Ercolano*.

THE ANTIQUE CHARACTER OF GUARDI'S LANDSCAPE *CAPRICCI*



Fig. 11. Roman landscapes, engraving from *Antichità di Ercolano*.



Fig. 12. Roman landscape, engraving from *Antichità di Ercolano*.



Fig. 13. Francesco Guardi, *Capriccio*, New York, formerly Wildenstein.

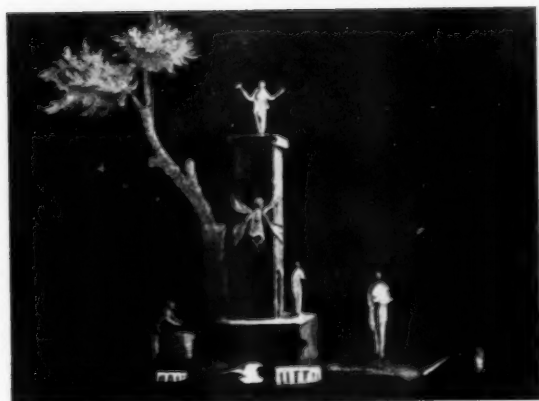


Fig. 14. Roman landscape, engraving from *Antichità di Ercolano*.

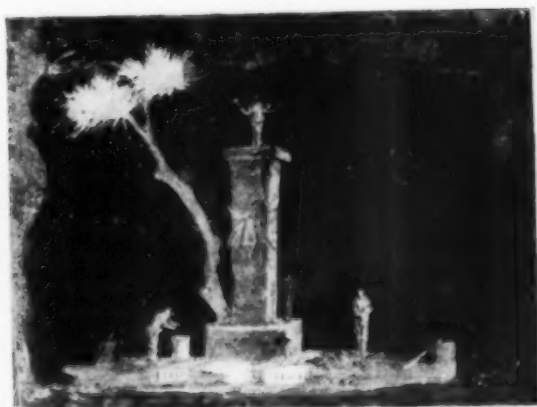


Fig. 15. Roman landscape, Naples, Museo Nazionale.

THE ANTIQUE CHARACTER OF GUARDI'S LANDSCAPE *CAPRICCI*

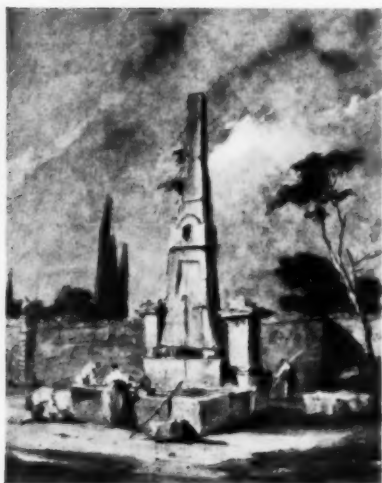


Fig. 16. Francesco Guardi, *Capriccio*, London, Villiers David Collection.

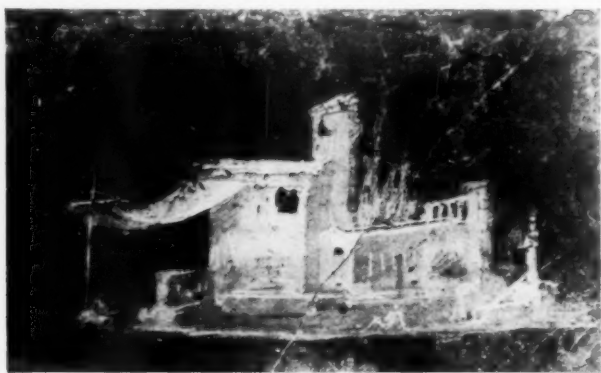


Fig. 17. Roman landscape, Naples, Museo Nazionale.



Fig. 18. Francesco Guardi, *View of Castel Cogolo*, Venice, Museo Correr.

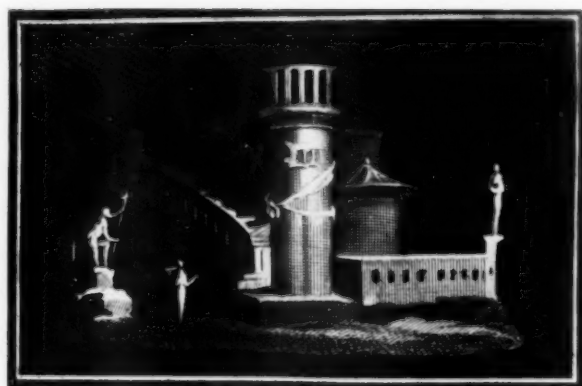


Fig. 19. Roman landscape, engraving from *Antichità di Ercolano*.

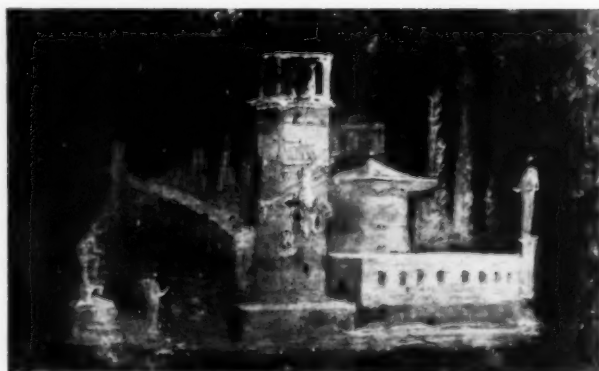


Fig. 20. Roman landscape, Naples, Museo Nazionale.

trees are remarkably identical in form and in relation to the edge of the painting or drawing. The disposition of branches and clumps of foliage, and the very nature of the foliage itself, are much the same. Both trees have something of the character of a pressed botanical specimen, which shows to full advantage their decorative potentiality. In a rather general way, this drawing is reminiscent of a number of the *Antichità* landscapes (figs. 8 and 10) in that the Guardi and the antique paintings share the theme of small, elegantly fanciful structures set in a rather unkempt terrain, often islands, with water very much in evidence in the middle distance.

Other examples of this type by Guardi and the Herculaneum painters are represented in figs. 11-13. Their subject is a small group of modest buildings situated on a terrace at the edge of the sea and accompanied in every case by one or several trees. The two landscapes of fig. 11 are fanciful and ornate to a degree somewhat beyond the usual imaginative scope of the ancient landscape painters. The one at the right is a particularly good example of planar organization of space in these small scenes. In this instance there appear to be three planes; the first at the lower right is the most complex since it is itself broken into two terraces and two pavilions which are all arranged in planar sequence. The second is the fantastic rock formation behind the two buildings, and the third plane is the spatially ambiguous grouping at the left distance. While this composition in no way attains the complexity or subtlety of a Guardi *capriccio*, it represents much the same manner of pictorial composition.

Figs. 12 and 13 are closely alike in their presentation of almost identical subject matter; if the low building on a vaulted substructure were absent from the Herculaneum example, the two paintings might be versions of the same scene. While the types of buildings are not the same, the aspects and light in which they are shown cause them to appear so.

The church facade in the Guardi stands in relation to its accompanying buildings in the same way as does the round tower in the antique painting to its adjoining structures. Despite the former's being essentially a facade view and the latter an unmistakably three-dimensional form, their appearance is analogous. The roofline (either the pediment or the conical shape); the bands of moulding at the cornice; and the centered, black doorway, one third the height of the entire building, are common to both. The low, gabled building appears as if reversed in a mirror when its placement in the two landscapes is compared, but in both cases it stretches out immediately to the right of the church or tower. The small belfry of the Guardi finds a counterpart, quite close in its placement and only slightly less so in form, in the pavilion with doorway and finial above the hall-like building of the Herculaneum painting. Similarities of subject matter extend to the large, densely foliated trees which are somewhat unusual in Guardi's littoral landscapes. To complete the likeness, both ancient and modern pictures are peopled with the same pole-carrying figures which touch the ground on legs curiously tapering to a point.

The chalky light of Guardi that picks out the front of the buttress, the side of the long building, a small plane of the belfry, the jetty, and the figures has its equivalent in the ancient paintings particularly as they are reproduced in the *Antichità*. This is striking; that in this case it is the light of the engravings perhaps more than of the originals that compares with Guardi's.

The differences between the engravings and the originals from which they come are worth observing well in this connection (*figs. 3 and 14 compared to 15 and 17*). It becomes clear that in the engravings brightly lighted planes are more isolated than in the originals, and that the lighting in the latter is more spread and general by comparison. It is the isolation and resultant accenting that occurs in Guardi, and this would point the finger toward the engravings as the more likely source of his knowledge of this type of antique painting.

On the other hand, there are comparisons such as that between the two antique landscapes, *figs. 15 and 17*, and the Guardi of *fig. 16*, that are persuasive of a possible acquaintance on his part with the originals. Specifically, it is here the lighting that would argue in favor of the antique paintings rather than their engraved reproductions as the model for Guardi's *capriccio*. The light in both instances seeks out architectural planes and casts shadows that assume the character of simple, flat geometric areas of only one value. However, these surfaces are varied minutely by faint shadows, reflected light, and uncertain stains that lend to the scenes a luminous, slightly misty atmosphere. So similarly are the various masonry forms treated that the balustrade under the awning of *fig. 17*, depicted with only two values, the darker of which flows down onto the ground as cast shadow, could be inserted in the Guardi without disturbing its unity of light or surface. The isolation of the island-like groupings of the antique views against the dark ground is worth comparing to the purely arbitrary dark foreground of *fig. 16*, which produces an analogous sense of detachment and insolidity.

The subject of the *capriccio* of *fig. 16* is essentially a monument and a tree, and occurs elsewhere in Guardi as in *figs. 1 and 5* where it appears as one of a number of elements. The combination of tree and monument is to be noted in several of the Herculaneum landscapes besides *fig. 14 (fig. 10)*. The comparison is, of course, closest between *figs. 14 and 16* where, in addition to the subject, light, and composition, the similarities extend to the figures and even the pole propped against the edge of a low wall.

Occasionally, even in views of actual sites, as the drawing of Castel Cogolo in the Correr Museum, Venice (*fig. 18*), Guardi evokes the mood and character of an antique landscape. The pyramidal arrangement of the buildings and their placement in the center of the page recall several of the Herculaneum landscapes, such as *fig. 3*. The counterpart of Guardi's round tower used as the axis of the composition is the same motif seen in the center of the antique painting illustrated in *figs. 19 and 20*.

In addition to the many elements of correspondence that exist between Guardi and the antique landscapes, there is a similarity of a more general and perhaps more basic kind: the vignette-like character of these paintings, even of the largest Guardi. They are fragments of a landscape caught and isolated against a neutral and infinite ground.

Guardi's contact with antique painting might possibly have come about in several ways. The most satisfactory explanation would be a trip to Naples where he could have seen the paintings themselves, *in situ* and in the Royal Collection there. Unfortunately, there is no evidence that suggests such a journey other, of course, than the similarities observed here between his work

and the Herculaneum paintings, and one must ask what are the alternative sources of his awareness of the antique material.

The possibility of a trip to Rome,¹¹ where he could also have seen quantities of Roman painting although not the particular landscapes that have been discussed here, was advanced by several writers. Goering's evidence for such a journey was a Guardi drawing in the Metropolitan Museum of Art on the reverse of which there is a large fragment of a letter, dated 2 October, 1761, from Caprarola.¹² On the basis of the attribution of this letter to Guardi, it was argued that he must have visited Rome. However, Byam Shaw has rather conclusively shown that the letter originally had no connection with Guardi.¹³

Other definite evidence for Guardi's having visited Rome is, at best, uncertain. A painting of the Roman view of the Church of Sta. Maria in Aracoeli and a portion of the Capitol in the Johnson Collection in the National Collection of the Smithsonian Institution bears an attribution to Francesco.¹⁴ However, this assumption of authorship seems rather tenuous since the painting to which it is attached suffers from a vacuity and wooden hardness that are foreign to Guardi's *vedute*. In view of the uncertainty regarding the origin of this painting, one hardly feels inclined to accept it as evidence in favor of Guardi's having visited Rome.

Another source of his apparent acquaintance with antique painting would have been reproductions, either drawings or engravings. Drawings we must leave aside for there is no way of knowing what Guardi may have seen of such material. The same uncertainty holds true, but to a lesser degree, for engravings and reproductions in any medium; that material of this nature was available in the collections of Venetian antiquaries and painters seems likely, but exactly what these collections contained and whether Guardi had access to them are questions to which as yet I do not have answers, if indeed it is possible to obtain this information. The only group of engravings after antique paintings that it is probable Guardi knew in Venice was the illustrations in the *Antichità di Ercolano*.

If one assumes the *Antichità* as the source of Guardi's apparent familiarity with ancient landscape painting, one would conclude that this knowledge should begin to appear in his work during the 1760's; the evidence of his drawings and paintings suggests that this is indeed the case. Since the publication of Fiocco's monograph, authorities have generally agreed that Francesco's earlier career was taken up with figure painting and occasional attempts at Canalettesque *vedute*.¹⁵ Goering¹⁶ and Shaw¹⁷ both conclude that the *capriccio* does not appear in

¹¹ Max Goering, *Francesco Guardi*, 1944, p. 11, n. 1. Frank Jewett Mather, *Venetian Painters*, New York, 1936, p. 473. Mather cites as evidence the numerous paintings and drawings by Guardi of ruins "in the Roman manner."

¹² Max Goering, *loc. cit.*, Hermann W. Williams, "Drawings and Related Paintings by Francesco Guardi," *The Art Quarterly*, II, 1939, p. 274, n. 3, and pl. 2. The Metropolitan Museum accession number is 37.165.71.

¹³ J. Byam Shaw, *op. cit.*, p. 40, n. 2.

¹⁴ George B. Rose, *The Ralph Cross Johnson Collection in the National Gallery* (National Collection), at Washington D.C., Washington D.C., 1922, pl. 7.

¹⁵ J. Byam Shaw, *op. cit.*, p. 76 and pl. 68; also p. 18, n. 2, in which he accepts as an early Guardi *veduta* in a Canalettesque manner the painting reproduced in Parker, *op. cit.*, fig. 1.

¹⁶ Max Goering, *op. cit.*, pp. 41-43. Goering comments here on the importance of the decade of the 1760's for Guardi's personal life as well as his artistic development.

¹⁷ J. Byam Shaw, *op. cit.*, pp. 22, 23.

Guardi's oeuvre until sometime in the decade of the 1760's and that only then does Guardi turn seriously to the *veduta* and the development of the completely picturesque style that is the hallmark of his maturity. Shaw suggests, in fact, that most of the *capricci* may date from after 1780 and that they are the purest expression of Guardi's fully developed style.¹⁸

Although there is no proof that would establish the contention that Guardi travelled through Italy, either to Rome or Naples, there exists no evidence that he did not do so. When one is again confronted by the comparisons of certain of Guardi's smaller *capricci* and the actual paintings from antique sites, the possibility of his having visited Naples and having seen the frescoes (and not just the reproductions) recurs persistently to one's mind. If the compositions are not identical, the forms and the manner in which they are presented are strikingly so. The light that rakes these scenes strikes whole surfaces and reduces them to a plane of a single value, delicately modulated by texture and by almost imperceptible variations in the light itself. The surfaces thus treated lose their mass-defining character and become geometric shapes of little more solidity than whitewashed paper. I have said that the forms are much alike, but the objects that are represented by those forms are not necessarily the same in Guardi and the Roman paintings. It is as if Guardi had searched his own world for objects of the same shapes as are in the ancient landscapes and then constructed little scenes in the antique manner but with modern subject matter.

A degree of fantasy and luminous technique were always present in the productions of the Guardi family atelier, and it is only when Francesco apes the style of Canaletto's *vedute* that he paints in a drier, more earnest manner. Given Francesco's penchant for an almost improvisatory, scintillating style, one could imagine that should he have actually seen the Herculaneum paintings, these would have struck in him an immediate and intense response. It would almost have been like seeing his own stylistic tendencies at their purest, and used to depict a type of scene, the fantastic landscape, that was eminently suited to his own particular sensibility. Would it be impossible to suppose that at the sight of these ancient landscapes, Guardi found both a precedent and solution for his unique pictorial tendencies and tastes? Not only would he find echoed in those Roman frescoes characteristics that were identifiable with those of his own style, but he would also have recognized the similarity between the fragile, unstable world of the antique paintings that is at the same time intimate and infinite, and the lagoons and islets, burdened with stained and aged masonry and lost in space, of his own settecento Venice.

¹⁸ *Ibid.*, p. 36. The lateness of the date advanced by Byam Shaw for the bulk of the *capricci* does nothing to invalidate the argument for the possibility of the influence discussed here. Of course, by 1780 the idea that classical works were the most acceptable models for contemporary artists to follow had gained wide currency, and one is tempted to think that perhaps Guardi sought to infuse his work with an antique quality to make it more fashionable just as he had earlier copied the style of the popular Canaletto. It is worth noting that the antique models to which he evidently turned were by late eighteenth-century standards the least classical but rather conformed to his rococo background and tastes.

THE CARICATURES OF GIAMBATTISTA TIEPOLO

by MAX KOZLOFF

Although their existence has been known since they were sold in England around the middle of the nineteenth century, Giambattista Tiepolo's caricature drawings have not received much critical attention. Even in the latest monograph on the artist, there is scarcely more than passing mention of them. Of course enthusiasm for Tiepolo in general is hardly lacking, and respect for his work seems only to be increasing since it first emerged from a critical limbo around the 1890's. In fact two big studies of Tiepolo monuments, Würzburg and Palazzo Clerici in Milan, have appeared in the last five years, while there has also been renewed scrutiny of his etchings by Mary Pittaluga as well as a new catalogue of the drawings in the Victoria and Albert Museum.¹ These are circumstances which make the long neglect of the caricatures (which, after all, form as distinct a group within his output as anything else) rather mysterious. Then too, they have always been overlooked exactly in the places where one would expect them to have made a distinguished contribution: the standard surveys or histories of caricature proper.

How did Tiepolo come to invent these caricatures; and what meaning do they have as creations distinct from his normal accomplishments? Conversely, do they shed any new light upon those accomplishments? That these questions have not yet been answered may indicate, I think, that the caricatures, however admirable, have been considered either too slight or too irrelevant to have much significance. This is not surprising. In a career devoted to vast projects and monumental ensembles, caricatures would seem to play a marginal role. Especially as it is known that the caricatures do not have any documentable relationship with the paintings,² the task of regarding them as anything but amusing curiosities, unrepeated in the work of a great painter, becomes more difficult.

No less troublesome is it to treat those qualities which make these little drawings caricatures in their own right. Ostensibly they are comic, but no one will assume that they alone are comic

¹ The four works are the following: Paolo Ancona, *Tiepolo in Milan, The Palazzo Clerici Frescoes*, Milan, 1956; Max Freedman and Carl Lamb, *Das Meisterwerk des G. B. Tiepolo, die Fresken der Würzburger Residenz*, Munich, 1956; Mary Pittaluga, *Acquaforisti veneziani del Settecento*, Firenze, 1953; and George Knox, *Catalogue of the Tiepolo Drawings in the Victoria and Albert Museum*, London, 1960.

² Exceptions may come to light. Domenico Tiepolo is known to have used a sketch of his father's which reappears in his panel entitled *The Minuet*, Cambo Collection, Barcelona. It shows a masked man with a muff. Cf. Osbert Lancaster, *Giovanni Battista Tiepolo, Twenty Five Caricatures*, London, 1943, p. 11.

in Tiepolo's works, and that insights from his other experiences had not prepared for them. His levity was so broad and yet subtle that it would be as unsatisfactory to represent it by the caricatures exclusively as, say, Mozart's humor by a discussion confined to his *Ein musikalischer Spass*. Indeed, it was a temptation to drop the "s" from the second word in the title of this article so that the whole problem of caricature, or more precisely the caricatured, be it color, composition, drawing, or iconography, might be studied. But such a deletion would have added difficulties quite beyond the scope of an introductory study.

As a point of departure, we might confine ourselves for the moment to that most revealing aspect of the caricatures, their psychological tone. If, generations ago, Tiepolo was criticized for an unseemly frivolity, his caricatures might be attacked now for their no more seemly understatement. They are the least jocular of all caricatures. In fact, the greater one's exposure to them, the less mirthful or satiric do they seem. There is little of the satirist's superiority to his comic subjects, and none of that release by which the satirist makes us share that superiority through ridiculing his fellow men. To be sure, Tiepolo is constantly aware of human ridiculousness, shows it, but (a finer point) he does not ridicule. Rather he reveals an understanding sympathy for the people who are such easy marks for his pen. Not only does he demonstrate a complete lack of prejudice in representing the high and the low, the wise and stupid, the beautiful or the ugly in his caricatures, but, unlike his contemporaries, he maintains considerable ambivalence as to which is which. This suspension of judgment, or, to be more accurate, this discreetness about traditional categories, marks the humorist rather than the satirist. Indeed, much of the humor in these images is an ironic humor because it withholds comment precisely when it would seem outrageous to do so.

In the same way, Tiepolo's caricatures, when they sacrifice outright laughter, do not do so in order to be serious. His work does not belong to the same tradition as Hogarth's and Gillray's; and he never has the intention to expose, criticize, or point a moral. Still less is he allied to Goya, whose imagery, while owing something to Tiepolo's exploration of the grotesque, often represents a savage indictment of humanity. In Goya's eye, mankind is so debased that merely topical accusation, the exposure of this or that particular man's infamy, is beside the point. Tiepolo may have no greater illusions than the Spaniard, but it never occurs to him that the caricatural mode might be the implement of a world view. Neither a weapon, then, nor quite an entertainment, never entirely good-natured nor malicious, Tiepolo's caricature occupies a self-contained world from which it stubbornly refuses to be pushed out into social use.

The tradition of caricature however, has always been associated with utilitarian meanings of one kind or another. Ranging from political invective to advertising, or from fashion plates to anti-clericalism, caricature could enlarge the formal means of expression simply because its functions were so varied. As the number of possible targets grew, the means to represent them became more versatile and differentiated. But there was also a special licence historically involved in the very idea of the genre. The definition of caricature by Baldinucci (1681) reads:

Caricaturing among painters and sculptors signifies a method of making portraits, in which they aim at the greatest resemblance of the whole of the person portrayed,

while yet, for the purpose of fun, and sometimes of mockery, they disproportionately increase and emphasize the defects of the features they copy, so that the portrait as a whole appears to be the sitter himself, while the component parts are changed.³

Here was a sanction which permitted the utmost liberty to the artist. No deformation was too monstrous, no form or shape too coarse, as long as it could take refuge under the status of caricature. The "disproportionate increases," or the peculiar discrepancy between part and whole in scale were not only tolerated, but admired.⁴ They did not have to be considered as "fine art."

It was only in the mid-nineteenth century, when the canons of the history picture and the portrait were broken through by ambitious painting—that is, when artistic vision finally achieved the right to be as radical as caricature—that there was any possibility of recognizing a merging between the two. Even while it could still preserve its social purpose, still might mock, caricature inevitably was elevated so that its energies were diffused into the work of art. Daumier and Toulouse-Lautrec, notably, kept the boundaries between the two concepts fluid enough for a mutual re-nourishing. With them, the distinction between the truth the eye sees and caricatural deformations no longer had to be observed.

As precursors for this whole modern development, Tiepolo's caricatures deserve recognition. They fit into Baldinucci's definition, broadly considered, and it is obvious too, that they originate within the tradition of Italian caricature established by the Carracci and Bernini. Yet, in the end, one has to say that they grow out of, rather than stay in that tradition. Considered within their context, the Tiepolo caricatures are unique.

All of Tiepolo's contemporaries wished to leave not the slightest doubt that their works really were caricatures; they caricatured, it might be said, with a vengeance. In the eighteenth century they brought to the young medium a gratuitous vivaciousness and an enormous capacity for schematism. One guesses that in order to establish caricature as a new pictorial form, greater rhetoric and standardization had to be injected into it than in the more random efforts of the seventeenth century. In the former period, an "objective" phase can be said to have existed in the history of caricature. Despite the informality which it always stressed, caricature was very definitely a convention, even if an alternative one, and it was recognition of this which took precedence over personal style in such men as Pietro Leone Ghezzi, Antonio Zanetti and Marco Ricci. The necessity to give the caricature images a certain extravagant look tended to cancel out all the more modulated traces of an individual viewpoint. Calligraphy became so externalized, that is, determined by commercial or social pressures, that caricatures by wildly different temperaments resembled each other far more than their work in genres not so touched

³ "E caricare dicesi anche da Pittori o Scultori, un modo tenuto da essi in far ritratti, quanto si può somiglianti al tutto della persona ritratta; ma pergiuoco e talora perischerno, aggravando o crescendo i difetti delle parti imitate sproporzionatamente, talmente che nel tutto appariscano essere essi, e nelle parti sieno variati." *Opere di Filippo Baldinucci*, (Vocabolario toscano dell'arte del disegno), Milan, 1809, p. 111.

⁴ Interest in caricatures was, in fact, strong enough to sustain the sale of several engraved volumes of them in the eighteenth century. The first was probably Arthur Pond's of the 1730's; it contained reproductions of caricatures by Annibale Carracci, Ghezzi, Guercino, Maratti, Mola, and Watteau.

by schematism. The Italian caricatures of 1700-40, high pitched, even shrill, severed all connection with the tone of voice in which their creators spoke in the more moderately phrased realm of the fine arts—a polarization which, perhaps, accounts not only for the high percentage of anonymous caricatures in drawing collections, but the great difficulty in attributing any of these isolated examples, exactly because they act as disguises to an artistic personality.

Tiepolo's caricatures, in contrast, appear to be among the earliest, if not the earliest, to resist the psychological and formal typology of the tradition. Continued acquaintance with them reveals that they seek to re-create, however modestly, the harmony between a personal esthetic and the established license. In large measure, their uniqueness consists of this seemingly effortless amalgamation. But while Tiepolo's power of invention is hardly challenged by this new artistic aim, that which he invents grows more nuanced and ambiguous in emotional tone. Contemporary caricaturists were eager to withdraw the image quite far from appearances if, by this, they could more clearly articulate their attitudes. Tiepolo, protesting, even if not deliberately, was wont to move in the opposite direction. His caricatures do not require that we feel the force of the exaggerations before the underlying peculiarity of the subject. (Indeed, more and more frequently, contemporary caricature dispensed with that peculiarity.) All his exaggerations, on the contrary, seem "found" in the person portrayed, rather than added to him. At the same time as they attempt to characterize or complete a gesture, rather than merely illustrate it, Tiepolesque shapes invariably are created for the value they have in themselves. Hence their effect is of having been arrived at through a process of discovery rather than conformity to an outside necessity. Since this was Tiepolo's procedure in general, his caricatures seem far less differentiated stylistically from their fellow drawings than in any other master of his epoch. A genuine extension of his art, they affirm, after the brilliant experiments of the seventeenth century, an independence of expression in caricature which was only to reappear a hundred years later.

Before any further interpretation, however, it will be helpful first to describe these works more specifically: their number, iconography, and format.

How many Tiepolo caricatures exist is extremely difficult to know, especially since many of the great albums of drawings have been broken and dispersed into innumerable private collections. It is not germane here to recount the early history, so far as it is known, of the Cheney Collection which probably contained the largest intact group of caricatures. In 1943, however, a section of the drawings owned by Arthur Kay of Edinburgh, one hundred and six caricatures, coming originally from the Cheney group, was offered for sale at Christie's in London. The sale catalogue read: "The following drawings by Tiepolo were taken from a folio book with original binding and with the title 'Tomo Terzo di Caricatura.'"⁵ If the other two volumes each contained as many, a minimum figure for caricatures would be around an astonishing three hundred. Drawings which apparently came from the other books were sold by Parsons in London and the Viennese dealer Gustav Nebehay, and are now spread about the

⁵ Knox, *op. cit.*, p. 7.

CARICATURES OF GIAMBATTISTA TIEPOLO



Fig. 1. Marco Ricci, *Caricature of a Man*, Windsor Castle.
(Photo: By gracious permission of H. M. the Queen.)



Fig. 2. Giambattista Tiepolo, *Seated Man*, collection unknown.



Fig. 3. Giovanni Domenico Tiepolo, *Orientali and Caricature Studies*, New York, Metropolitan Museum of Art. (Photo: Courtesy of The Metropolitan Museum of Art, Rogers Fund, 1937.)



Fig. 4. Giovanni Domenico Tiepolo, *Three Adolescents on their Knees, Seen from the Back*, New York, Cooper Union Museum. (Photo: Courtesy of The Cooper Union Museum.)



Fig. 5. Giambattista Tiepolo, *Scherzo di Fantasia No. 9*.
(Photo: Courtesy of The Cooper Union Museum.)



Fig. 6. Giambattista Tiepolo, *Group of Seated Punchinelli*. (Photo: Courtesy of Paul Wallraf.)

CARICATURES OF GIAMBATTISTA TIEPOLO



Fig. 7. Pietro Leone Ghezzi, *Caricature Self Portrait*. (Photo: Courtesy Janos Scholz.)



Fig. 8. Giambattista Tiepolo, *Standing Man*, The Art Institute of Chicago. (Photo: Courtesy of The Art Institute of Chicago, Samuel P. Avery Collection.)



Fig. 9. Giambattista Tiepolo, *Caricature of a Hunchback*, Princeton University, The Art Museum. (Photo: Courtesy of The Art Museum, Princeton University.)



Fig. 10. Guercino, *Urcin*, Princeton University, The Art Museum. (Photo: Courtesy of the Art Museum, Princeton University.)



Fig. 11. Giambattista Tiepolo, *Caricature of a Man Seen from the Back*, New York, Eugene Victor Thaw Collection.



Fig. 12. Giambattista Tiepolo, *Large Cloaked Woman with Tri-cornered Hat, Seen from Behind*, London, Paul Wallraf Collection.

world. (The little group in the Platt Collection at Princeton University appears to be the largest concentration of them in the United States.) Because the albums were distinctly labeled as collections of caricature, it must be assumed that the above mentioned core number was not swelled by related costume or figure studies which, while they may have been affiliated with the caricatures, usually received designations of their own.⁶

As to subject matter, the Tiepolo caricatures offer a very wide cross-section of eighteenth century society. He has represented priests, noblemen, clowns, merchants, artisans, senators, dockworkers, vagabonds, monks, innkeepers—in short, almost panoramically, he sweeps from the bourgeoisie to the aristocracy to the down and outers. If only by their contemporary dress, these individuals are distinguished from those in the lofty realm of the artist's religious and allegorical visions. For, even while Tiepolo never indicates their surroundings, their garb roots them to a specific time and place—a condition with which his commissioned work will have nothing to do.

But while this specificity was often a prerequisite for caricature, the Venetian settecento, Tiepolo pre-eminently, expanded a counter-motif, Punchinelli, whose significance derived from a position deliberately outside of society. The tradition of the Harlequinade had long been associated with pictorial humor, just as, of course, it had always been the incarnation of stage comedy. Yet it remained to Tiepolo and his contemporaries to enlarge the iconography of caricature, so that by means of these charlatans and mummers, an almost allegorical note was injected into a genre previously confined only to the here and now. The cast as well as the repertoire of caricature situations was thus not only enriched, but the level of meaning deepened by the interplay between the particular and the universal which was the basis of humor in the *Commedia dell'Arte*. Previously the droop-nosed, stock figures of the popular theatre had made superficial appearances among the early seicento caricatures, but always isolated, and never in force sufficient to provide a new theme. However, preceded by Callot, such artists as the Florentine Domenico Ferretti, Pietro Longhi, and the Tiepolos developed the Punchinelli as an antidote to the excessively topical, an antidote by which men's absurdity becomes Man's. It is interesting to note also, that the juxtaposition of the perennially foolish or venal with those whose foolishness or venality is more the special flower of their own milieu, introduces a duality that sustains the comic as Idea at the same time as mere observation. That which evokes laughter in human behavior is continuous, happily without the capacity to change, and beyond, in fact, the pale of history. Insofar as Italian Punchinelli have these implications, they can be thought of as caricature's malicious parallel to the altarpiece, or to the *mise-en-scène* from Antiquity. Because he was a symbolic creature, the deformed mountebank stood in relation to his cousin in the streets as does an adoring saint in a church picture to a prayerful householder in a genre painting.

⁶ It may be useful here to give a list of the European and American collections which have significant examples of Tiepolo caricatures. Naturally, these collections are not necessarily coincident with the greatest concentrations of his drawings, nor is the list exhaustive: Museo Civico, Trieste; Museo Civico, Milan; Sacchetto Collection, Padua; Collection of the Duke of Talleyrand, Paris; Renée de Becker, Paris; Paul Wallraf, London; Atger Collection, University of Montpellier, France. The principal American collection is at Princeton University (Platt).

It is essential, then, to bear the combination of these two elements in mind. Punchinelli and masqueraders as opposed to citizens with their wigs and three cornered hats operate in Tiepolo's caricature as a force for maximum anti-complacency. Unlike Ferretti, he never brings the two together on the same page though to have done so would have underlined the fantastic or farcical character of a scene. Giambattista prefers to keep each type physically separate, but to include insinuations of the one in the other.

Aside from this slight peculiarity, Tiepolo's caricatures cannot be said to offer anything out of the ordinary in terms of the subjects they represent. On the contrary, his rogue's gallery is the normal one for his time. One has to see more than social status in Tiepolo's menagerie to uncover the imaginative content of his caricature.

If initially, the problem of meaning in Tiepolo's caricatures has to be stated in terms of what they are not, rather than what they are, the examination of their form can be more forthright, for here, no great difficulties arise. The characteristics of Giambattista's draftsmanship are well known: its restraint, high-keyed values, optical awareness of light, and fluid composition. The muted ripples of his drawings sometimes abruptly change their direction, and radiate nervously over every image, while the line, never more than delicate, is still energetic and voluble, with a little vocabulary of gestures and undulations all its own. Just as the blank backgrounds are transmuted from an unarticulated void into light and atmosphere, so finite attitudes become actions. The caricatures are undoubtedly vested with the majority of these qualities.

Where they differ significantly from the drawings, is in terms of format. For example, they are frequently uniform in size, typically not more than seven by four inches. Unlike the majority of his drawings, moreover, they are representations of single figures, rarely gesturing, either seen back, front, or profile, with none of the three-quarter views or radical perspectives that were *de rigueur* otherwise. Similarly, they are all executed in pen and brown or gray wash with no exceptions—the blunt brush, the sanguine, the chalk, the pencil, the tinted and textured papers of his other drawings are never employed. Furthermore, the caricatures are framed vignette fashion by penned margins clipped diagonally at the corners and are often mounted on darker paper for presentation in an album. Within the corpus of his drawings, Tiepolo's caricatures give a very distinct impression of sobriety and purposefulness.

Noting this, we are put more on our guard in observing an interesting duality in the workmanship of the line. While the general method is more summary and free than in the average drawing, Tiepolo insists that one line tell the story, rather than allowing several to "establish" it. At the same time, there are few vestiges of preliminary pencil lines, as was Tiepolo's procedure in most other drawings. The artist, continually improvising, is both relaxing and testing himself. Therefore, in the caricatures we have the curious situation of a master who, when he turns away from his more weighty concerns and is, as it were, amusing himself, tightens his powers of observation.

This reversal is usually the mark of the unprofessional caricaturist: the Carracci and Bernini as opposed to Ghezzi and Callot. Like the former's, Tiepolo's caricatures at first sight tend to

look incidental and fragmentary, especially in contrast to their frames, which give them the formal air of being on exhibit. Yet this impression is misleading. With their control, they lack the abandon of their Italian predecessors. In addition, they seem very ill at ease with physiognomic exuberance, the trademark of caricature. In general, they do not even seem studies of mimic expression.⁷ Possibly, though, one ought to qualify this by stating that Tiepolo gives far more importance to the body as a vehicle of expression than is usual, and that animation of the face is thus lowered to conform in aggressiveness rather than overshadow the figuration beneath. The head is not the reason for being of the caricature, nor even its climax, but merely a peer of the body.

For all that, no greater emphasis is given to the possibilities of ridiculing costume. One has only to compare a Tiepolo caricature with any by his Venetian colleagues Marco Ricci (*fig. 1*), Antonio Zanetti, or Andrea Toresani to see how dominated they are by perukes, buckles, frills, ruffles, lacy ornaments, and how innocent of interest in all these things Tiepolo is.⁸ On the contrary, the outfits of his people are fairly unarticulated as outfits; only the most absolutely necessary indications are given of style and fashion, but great ingenuity is devoted to inventing strange rhythms for them. These caricatures, moreover, are anti-decorative. Where a Zanetti fop does not so much wear his clothes as display them, anyone by Tiepolo has undoubtedly slept an undetermined period in his garb. Its crumples and special shapelessness testify to the idiosyncratic movements, past and future, of its owner. So, Tiepolo's images fluctuate between definitions far more taciturn and yet specific than their immediate milieu offered them. When the tendency was purposeful laxity in the caricature around him, Tiepolo was seeking a new vigilance.

Once again Tiepolo's caricatures elude description. Obviously they present a problem of identity. But what they are in themselves is determined by what they could have meant to their author. These two issues are, I think, inseparable from each other.

The few speculations that can be gathered on the former subject are varied. Antonio Morassi believes that Tiepolo invented the caricatures "as a sort of counterpart to his more serious works."⁹ Even if true, this applies to several artists besides Tiepolo and would not be a very significant explanation. Otto Benesch says only that they are "mere entertainments of the pen,"¹⁰ *jeux d'esprit*, as it were. Yes, but this does not account either for the restrictions we notice, or the psychological complexity many of the caricatures reveal (*fig. 2*). Much more interesting is a writer in *Apollo* magazine who thinks that the caricatures reveal the true artist, and are no

⁷ In his treatment of the face, Tiepolo obviously has taken Veronese as his model. They both maintain an enormous reserve which, at its most articulate, verges on serenity (though some of Giambattista's paintings, such as *The Martyrdom of St. Agatha*, Berlin, as well as several of the smaller religious paintings represent convincing "pathetic" expressions). This general Berensonian "ineloquence" was quite fitting for ceremonials, though a rather equivocal device in post Counter-Reformation religious art, and, certainly, an inauspicious referent for caricature.

⁸ See Anthony Blunt, *Venetian Drawings of the XVII and XVIII Centuries at Windsor Castle*, London, 1957. The author reproduces scores of caricatures which offer the best view of the context in which Tiepolo worked.

⁹ Antonio Morassi, *G. B. Tiepolo, His Life and Work*, London, 1955, p. 146.

¹⁰ Otto Benesch, *Venetian Drawings of the 18th Century in America*, New York, 1947, p. 19.

longer tongue in cheek¹¹ (like his major works?). In this opinion, quite opposed to the others, we have the first idea that the caricatures are private, almost subversive, and, as distinct from a simple complement, an actual counter-art to Tiepolo's main body of commissioned work. While the writer in *Apollo* assumes an unmerited devaluation of Tiepolo's frescoes and altarpieces, he does suggest an insight into the artist's peculiar reversibility. The "true" Tiepolo, naturally, is not less present in his painting because an unexpected content is suddenly found in a sequence of his drawings, nor should the richness of his artistic personality be limited in favor of a singular moment in which he comes down to earth.

Still, the writer has a point: when Tiepolo is thought of in connection with any of the famous part-time caricaturists, Bernini, or Pier Francesco Mola, for example, a relationship does hold between their monumental or decorative work and their caricatures which does not for Tiepolo. Normally their commissions are rhetorical and dramatic; they climb up on horseback with their sentiments; their caricatures are comic relaxations. In Tiepolo, the religious or history picture usually no longer portrays a credible story, nor is meant to do so—he puts a pipe in the mouth of a Roman consul—but the "comic relaxations" grow quite earnest. Siphoning off the interior conviction from large compositions, in many of which decorative requirements made it inappropriate, Tiepolo could channel it into a more accessible genre: caricature and related works. This is not to say that his caricatures come any closer to resembling, for instance, the moral high-mindedness of Hogarth's. The Italian does not invent a particular context or manner in which his statements might sound more substantial. He accepts caricature as a less contradictory form in which to phrase his sentiments; he does not remake it. Rather than adopt an external rhetorical tone, Tiepolo, it seems to me, sees caricature as an internal way to extend his irony, and as a means to embody both his skepticism and sense of paradox in the most straightforward manner.

If the preceding reconstructions of the artist's intentions are somewhat delicate, needing not a little confirmation, it is a more thankful quest to discover how Tiepolo came to imagine these particular caricatures. There were many encouragements in his environment, of course, for the production of such works. Not only had a fashion for them been created, such that in and around studios, as well as among collectors, caricatures were prized for more than their curiosity value,¹² but the artistic impulse itself, in eighteenth century Italy, had ripened a kind of caricature mentality. It should be remembered that this was an era in which such "expressive" artists as Magnasco, Francesco Guardi, and Piranesi were active. Sanctioned by Salvator Rosa, among others, they established many new themes, but also they charged Baroque church art, which had been carried to a self-defeating eloquence, with a capricious and nervous accenting. The energy that had gone previously into the illustrating of an emotion was translated by these artists into the motor value of their own calligraphy. Their style was receptive to excesses, and mingled in an excitable way emotional impulses with decorative motifs. It thus stood in relation

¹¹ [Perspex], "Art Notes," *Apollo*, July, 1943, p. 11.

¹² "In Italy, caricature had become an important teaching device in which artists were required to show their sharpness of observation, their aptitude as draftsmen and their virtuosity." Werner Hofmann, *Caricature from Leonardo to Picasso*, New York, 1957, p. 31.

to its predecessor not as a reaction, but as an extension, within a mannered and caricatured format.

Still, the above does not explain why Tiepolo's caricatures are so individual and marginal within their period. We would like to know what developments pertaining only to him throw light upon this matter. Is there anything in his output, for instance, which prepares him specifically for this relative extreme of caricature, or which narrows the extraordinary cleavage between, say, *Rinaldo and Armida*, and the Hunchbacks? In many artists, caricature is the next step beyond a portrait likeness. Baldinucci's definition states as much. Certainly it is not difficult to see how, in Guercino's so-called *Caricature of Annibale Carracci*, features that had been studied from some model are now grossened. We are reminded of the Italian meaning of the word *caricare*: to load or exaggerate. Only two portraits are given to Tiepolo.¹³ Yet, while he could not have approached caricatures through portraits, one must not overlook a separate genre entirely: his etched *Capricci* (first published in 1749), and their close contemporaries, his *Scherzi di fantasia*, an enormous wealth of fantasy images.¹⁴

It is possible that Tiepolo was led to take up etching not only by the great commercial promise of the medium, but also because of the fact that there was a impetus within his own studio. Domenico Tiepolo had begun to etch in 1743, making reproductions of his father's recent works. Moreover, the young man was strongly affected by Giovanni Benedetto Castiglione, and the traces of that artist in Giambattista's etchings tend to confirm if not Domenico's initiative, at least the fact that Castiglione was a common stimulus for both Tiepolos. Finally, it is known that the elder Tiepolo was counseled by his connoisseur friend, Count Algarotti, not only in the lessons of Castiglione, whose etchings were in the Sagredo Collection in Venice, but in antique iconography as well.

Various anticipations of the *Capricci* begin to appear in Tiepolo's drawings around the early 1740's. At this distance in time however it is sometimes difficult to distinguish between the hands of father and son, so strongly did the theme appeal to both their imaginations. Domenico may generally have taken the subordinate role in their professional activities, but he came very close here, at any rate, to supplying some major ideas. Two drawings at Princeton University, given to Giambattista, deal with a crowd of ancients and orientals gathered together among antique properties.¹⁵ In addition, there are detailed studies of Roman armor taken from plates in Montfaucon's *L'Antiquité Expliquée*, Paris, 1719, which were executed about this time,¹⁶ and which obviously bear upon the problem of the sources for his etchings. Finally, we

¹³ *Portrait of a Procurator*, Venice, Querini-Stampalia Gallery; *Portrait of Antonio Riccobuono*, Rovigo, Accademia dei Concordi.

¹⁴ Tiepolo's etchings are catalogued in Alessandro Baudi de Vesme, *Le Peintre-graveur Italien, ouvrage faisant suite au peintre-graveur de Bartsch*, Milan, 1906.

¹⁵ Mather Collection 44-11, and Platt Collection 48-841. These are taken simply as illustration. Equally appropriate examples exist in several other collections.

¹⁶ Two of these were exhibited at the Seiferheld Gallery, New York, in its *Tiepolo Drawings*, October 22—November 30, 1960. This French book may also have been the source for Tiepolo's treatment of themes from Roman history at Palazzo Secco-Dolfin, Venice, and Palazzo Dugnani, Milan. In general, however, Tiepolo had been drawing on any source available for years, Roman armor having appeared in dozens of his compositions, with more or less archaeological precision, since the early 1730's.

have a large group of 46 drawings at the Victoria and Albert Museum, coming from a volume entitled *Sole figure vestite*, all done not later than 1749, and clearly relating thematically to the etchings.¹⁷ In these preliminary and rough fragments, references to antiquity, which dominate the prints, are seen gradually to accumulate.

An etching by Domenico at the Cooper Union Museum is unusual.¹⁸ A compound impression, the upper plate represents ancient bows and arrows scattered among Roman helmets; the second plate, pennants, military gear, hermae, breast plates, flaming braziers; and beneath, finally, there is a series of heads of bearded old men, satyr faces really, which seem to be continuing elaborations of each other. The connection between the upper and lower levels is not clear. We are forced to accept this juxtaposition without at first understanding it. In a sheet of drawings at the Metropolitan Museum, also by Domenico Tiepolo (*fig. 3*), which must have been closely involved with the interests of his father, the combined images of elders are opposed to a caricature of a man beneath them.¹⁹ The idea becomes more legible. A metamorphosis is suggested: between the animate and the inanimate, the aged or dignified and the ridiculous, the vanity of the past and of the present, there exists some correspondence. From these disparate scraps, a vague program begins to take form in the etchings. It is a dialogue in time, so to speak, phrased in terms of magic and the quasi-supernatural.

Indeed, Tiepolo relies on and plumbs a tradition of mummery which refers to ancient times. He shares with Piranesi that nostalgia for the past, part fantastic and part archaeological, which both try to make an evocative element in their art.²⁰ Even further, they react in such a way to the Antique as to realize that to express the life of the past in the artistic present is to populate art with contradictions. While the dream of Arcadia which continually fascinated so many eighteenth century artists intrigued Tiepolo also, it was impossible for him to believe in it unquestioningly. Diffused in the images in the *Capricci* and the *Scherzi*, is an indulgent, but not credulous exoticism. Unlike Anton Raphael Mengs, who personifies the Neo-Classic taste which quickly was to supersede theirs, the two Venetians cannot dissociate themselves from, nor for that matter, refrain from expressing, the irrational in their fantasies and recollections. Not to recognize, in some fashion, the irreconcilability of the Roman ethos with an era which socially, politically, and spiritually, had no affinity with it, meant incurring intellectual confusions.

¹⁷ Knox, *op. cit.*, p. 60.

¹⁸ Catalogue number 1931—57—50.

¹⁹ This page is interesting for a number of reasons. The series of profiles at the right is strongly reminiscent of Dürer, especially a very similar sequence of his at the Albertina. It is known that the German dealer and etcher Giuseppe Wagner sold many Dürer engravings in Venice, at the same time the *Capricci* were being produced, and that Giambattista admired Dürer immensely. Thus, not only could Dürer have affected Giambattista's, etching style—traces of the older artist can be seen in the *Capricci*—but Dürer's physiognomic variations were undoubtedly familiar to him as well. In combination with the patriarchs and the old men (whose foil is the handsome, beardless youth) these images do not seem to occupy the same paper merely by chance—as if they were random jottings for unconnected projects, but rather, gain a thematic unity: the fantasy patriarchs, the theoretical head studies, and the actual caricature are variations on three different levels of imaginative existence of anti-normative facial structure.

²⁰ Piranesi worked in Tiepolo's atelier after 1749, and probably had seen the first edition of the *Capricci*. His *Grotteschi* contain elements which are partly derived from the latter's prints.

On the contrary, Tiepolo and Piranesi embrace the arbitrary in their relationships with the past, but also betake themselves from any faith in their piecemeal illusions by the form of the caprice. This interesting genre protects the visionary by the simple expedient of purposely announcing itself as fiction. It therefore neatly wards off attacks against its arbitrariness to which an overly serious fantasy is often more vulnerable. The capriccio visions of Tiepolo and Piranesi are startlingly anti-Utopian. They rouse an anxiety, though with a poetic intent. Beyond that, of course, the two Venetians differ very much from each other. The younger artist, except in his *Carceri*, concerns himself with the attrition between nature and man's works, and more specifically, with the destructive effect of natural time upon those efforts to forestall mortality, the once grandiose structures of the Roman past. From this struggle, Piranesi affirms a new consciousness of the ruin. Tiepolo, less clearly, is absorbed with the enigmas of the human situation, its reality and appearance. With him, the most outlandish confrontations of objects and beings are presented in ensembles whose purpose is to disrupt our normal associations, and only then to establish a new accord among the component elements.

To do this, Tiepolo's fantasy finds recourse in an unreal and oneiric framework. When we look at the *Capricci*, the opposites in which he deals are distilled in set tableaux. Each image holds its place, but the overall relationship of the images is puzzling. No one questions the presence of any personage in one of Tiepolo's allegories; we are inclined to do so in the *Capricci*. In their special realm, the mythological figures have carte blanche to come or go or dawdle about as they please. This is exactly what happens. Their hauteur is a mark of their privileged position. (Whenever they look out at us, they have to look down.) But the *Capricci* figures have no such licence—they are among each other because of an opaque necessity which we cannot grasp. The very broadness and generality of the allegorical subjects allowed a freedom and relaxation of the people within them—but at the expense of restricting the significance of the whole. In contrast, the *Capricci* lack orthodox subject matter, which seems to have inhibited or restrained the figures, but enlarged the possibilities of their meaning. No doubt Tiepolo is countering the official or prescriptive subject, and though he never feels overly obliged to respect accuracy in the narrating of a story, the extreme to which he goes here in disencumbering himself from any such necessity whatsoever, is striking. There are themes, motifs, but no events in these prints. Typically they contain intimate groupings of young men and turbaned patriarchs, magicians, soldiers, orientals, urns, broken columns, obelisks, palms, etc. Fragments, arrested encounters, are the apparent content of the work of art. Just as the mood has become more intimate and elegaic, so too the groupings have been modestly pulled in from the sides and corners, and are more tightly knit by the center. All this, occurring in an abstract and unlocalized context, indicates that these strange figures are, in effect, symbols. That is, they do not "stand for" something else, as in an allegory where figures are said to represent "Time" or "Virtue," nor are they personifications, such as those three owls in the frontispiece to the *Scherzi di fantasia* whom Tiepolo sarcastically calls the Magi, but are quite open to many interpretations. Piazzetta alone, among Giambattista's contemporaries, has created mysterious entourages comparable to these. But Piazzetta's conversation piece drawings, despite the evocativeness of

the heads which he groups enigmatically together, are not caparisoned with the relics of an ancient civilization, while their formal treatment is not greatly innovational.

There are, however, certain details in these prints which are fairly scrutable, and which allow us to satisfy some of our inquisitiveness. Frequently in the *Capricci*, and just as often in the *Scherzi di fantasia*, sculptured heads are contrasted with human ones. Hidden in the shadows or cropping up unexpectedly on round shields or the tops of urns, these grinning heads are more animated than their flesh and blood counterparts.²¹ As in many eighteenth century works of art, this conceit hints playfully of the antique. Then too, the multitude of owls, satyrs, and serpents, goats and rams, creatures with traditional attributes of potency, mystery and wisdom, tend to remove each scene into the atmosphere of a vague pagan rite.²² When he includes an oc-

²¹ The frequency of the appearance of these images in Tiepolo's art is astonishing. The etchings are merely the most obvious examples in an oeuvre which, however high flown its purposes may sometimes be, is literally swarming with a sub-population of lugubrious masks. In the *Danae* of the Stockholm Museum alone, there are four of them. Every bed post, scabbard, belt buckle, urn shoulder, or breast plate seems to have been a likely place for the deposit of these ambiguous creatures. There is even a prominent animalized face in the molding of an arch above the face of the *Procurator*, one of the two portraits ascribed to Giambattista. (Recently, Michael Levey has given this work to Domenico: "The Eighteenth Century Painting Exhibition at Paris: Some Corrections and Suggestions," Burlington Magazine, April, 1961. While his stylistic analysis is interesting, I do not concede his point that the attribution is further supported by the ironic element in this painting — irony being one of the chief qualities to be seen in the father). The presence of such a motif is capricious and uncanny, and often irreverent as well. Its effect is hard to calculate, and obviously varies from canvas to canvas. In the Querini portrait, for instance, the exaggeratedly doleful imp tends, in contrast, to lend the dignitary's face a slight grin. It should not be overlooked, incidentally, that Tiepolo has made especially prominent the frontal cleft in his wig, thus giving the unmistakable suggestion of horns. (Compare the *Portrait of a Procurator*, pl. 51, with Alessandro Longhi's *Portrait of N. H. Giulio Contarini da Mula*, pl. 52, in *La peinture italienne au XVIII siècle*, Catalogue of an exhibition at the Petit-Palais, Paris, November, 1960-January, 1961, to see how markedly Tiepolo differs here from the normal portrait conception.) In the dramatic *Tarquin and Lucretia*, Habersstock Collection, Berlin, the tragic masks, disturbingly enough, can be read either as punctuation marks emblematically in keeping with the emotion expressed, or as mocking caricatures of that same emotion. One further implication of these grotesques is in their bestialized features: looking upon them it is not impossible to imagine the artist making an underhand comment upon the basically animal nature of human passions. Thus, the notion of the animated statue, or bronze, which was, historically, a mannerist conception, is given a specifically caricatural twist by Tiepolo. His contribution is a kind of visual *double entendre* in which the artist is satirizing the motif itself, and often his own stage characters as well.

In the etchings, of course, the animal masks appear in company with real animals, thus completing the various phases of creaturely existence. In itself, the introduction of animals is appropriate when one remembers that the power of the magicians (the protagonists of the *Scherzi*) often depended on the presence of their animal auxiliaries. See Louis Metcalfe, "The Etchings of Giovanni Battista Tiepolo," *The Print Connoisseur*, June, 1921. But the *Capricci* contain a plate (de Vesme 2) in which a goat appears amongst a family as if it too were one of its members. Thus, one of the insinuations of the prints is that man is on the verge of some Ovidian metamorphosis into a lower form of nature: the normal human, the satyr, male and female, the goat, and, as a final comment, the goat mask on an urn.

²² Actually, there is much knowledge displayed about magicians's rituals, as well as ancient superstitions. The vases, for instance, are for the oil with which the magicians covered their bodies before an incantation. And the pan is for the blood sacrifices. Furthermore, ancient Roman superstitions are recalled by the cry of an owl, the howl of a dog, and the breaking of a vase. Finally, the Magician holds the Tarot, a book of emblems and symbols which was the book of destiny by which the sorcerer prophesied. These, and many more details, have suggested to Knox, *op. cit.*, p. 37, and Metcalfe, *op. cit.*, that the etchings are making some veiled comment on the notorious Venetian penchant of that time for chicanery. But there is nothing decisive enough about the emotional tone of the prints to allow us to judge Tiepolo's attitude towards magic as either mocking or sympathetic. Despite attacks by the intelligentsia against contemporary magic (Marquis Maffei's three essays, *Arte magica deleguata*, 1750, or Girolamo Tartarotti's *Congresso notturno della lammie*, 1749), there is no reason to assume that the *Capricci* represent their critical points of view.

casional large sphere (*Scherzi*; de Vesme 32) it brings to mind a geometer's demonstration. In another of the *Scherzi* (de Vesme 16) a magician points out a human head about to be burned, to some staring youths. In still another (de Vesme 10), the figure of Death, seated, reads his sentence to a group of frightened people. These opposites of life and death, reason and instinct, are the *leitmotifs* of Tiepolo's etchings. It is an epiphany, a showing forth of threats and opportunities which he portrays, and before which, man, energy curiously dissolved, stares in panicky fascination. Such, at least is the purport of that etching designed by Giambattista and executed by Domenico (fig. 4; de Vesme 108) which reduces the idea to its essentials.

The reason the prints are not more affecting is not that they are over-cryptic or withdrawn too obscurely into a world of chimeras, but that the form of allusion in which they are presented is the masque. Pretense governs this arcane composite. Indeed, in 1761, twelve years after the *Capricci* were published, Carlo Gozzi produced his *Fiabe*, a sequence of plays in which the gallimaufry of the prints is resurrected alive on the stage: speaking beasts, enchanted forests, magicians, serpents, and jewel-studded halls. Culturally, this is an event very close in spirit to Tiepolo. The connection is even stronger than one supposes because not only is the word *Fiaba* translatable as "unlikely story," but the plays were actually subtitled *Capricci Scenici*. The second of the *Fiabe*, *Il Corvo*, is rather pertinent to our subject. It concerns a cruel magician opposed by mysterious sorcerers from the east, and the plot represents a kind of occult struggle, a Manichean play of the forces of light and dark.²³

To judge, however, from their only brief popular success as novelties, the *Fiabe* depended almost entirely on the dexterity of their invention. And this was ever about to exhaust itself upon the audience as soon as it was able to absorb the idea that ropes could talk. Tiepolo, though, even if he lacks some of the vivid and bizarre quality of Gozzi's imagery, is more complicated in his approach. The theatricality of the *Scherzi di fantasia* does not inherently belong to them, but is a gratuitous injection. By making pretence deliberate as in the plate in which a Punchinello is shown conversing with two magicians (fig. 5; de Vesme 21), Tiepolo is emphasizing the masquerade as an aspect of life rather than of art. That is, the artificial is in what he portrays, not himself. He seems to draw from his experience of the world the teaching that since all human actions are motivated by a frivolity that enables man to escape loneliness and the thought of death, the muffled frivolity of a costume party in which these things are mocked is less pernicious than the greater frivolity of such serious business as politics and war.²⁴ Gozzi simply assumes that in the dramatic fantasy roles are played; Tiepolo, with a far less easy conscience, is obliged to call attention to the playing of roles. Beyond this admission, however,

²³ Joseph Kennard, *The Italian Theatre*, New York, 1927, I, p. 261. This includes a lengthy discussion of the *Fiabe*.

²⁴ The treatment of one of the themes in the *Scherzi* illustrates Tiepolo's irony with precision. A very respectable and elderly Baroque tradition was the "Discovery of the Tomb." Poussin's celebrated versions were only two among several which continued the pessimistic philosophy of time's destructiveness sadly recalling human mortality. Castiglione's discovery scene is wild and fear ridden, and takes place amidst portentous ruins. But when Tiepolo takes up the idea, as in the seventeenth *Scherzo* (de Vesme 29), not only is all pain and terror eliminated, but the discovery itself is the discovery of the tomb of a mere puppet (Punchinello). Mrs. Myra Merriman, of Columbia University, has pointed this out to me.

he feels self-protected, free to deal lightly with fancy, the while making statements different from and more penetrating than those in his allegories.

These are some of the considerations which lead us to suspect that Tiepolo would have a receptive view of the art of caricature, or that, even more, his caricatures might offer new insights. For, in the juxtaposition of opposites and in reversed relationships, in the notion of the transformed image, and the ironic confession of fantasy, the principles of caricature are not far to seek.

Tiepolo had developed a form of expression which was fundamentally bilingual: speaking on one hand a playfully irresponsible, imaginary tongue, and on the other, one mundane and knowing. It would be naïve, however, to think that Tiepolo sought by this melange to confuse the boundaries between the actual and the illusory. When Pirandello's characters take to berating their director, or in any other fashion destroying the convention of the stage, they are misbehaving in a way which Tiepolo never would have allowed.

In the *Capricci* one finds perhaps, comments on the human condition, but no attempt to probe individual human experiences. Caricature gave Tiepolo the opportunity to close somewhat the gap between his new psychological interest and the realities of social behavior in the outside world. The etchings appear to be operating upon the spectator, as they did, no doubt, upon the artist's contemporaries, through a distance in time and space. The caricatures, in contrast, are immediate, sharp, and specific. They are urban rather than pastoral, and they are momentary, as opposed to timeless. Still, in their tranquillity, they remind us of the hushed and immobile settings of the etchings. Having no need to be imaginary in order to explain themselves, they nevertheless stop short of immersion in the jokes, passions, and issues of their day. Perhaps it was inevitable that they share some of the ambiguity of the etchings. While Tiepolo is hardly alone in the creation of *Scherzi* and *Capricci* (Piranesi, the Riccis, Canaletto, Marieschi, and Francesco Guardi were practitioners of the genre—though always in terms of architecture or landscape) he is peculiar in extending the sensibility he developed in those prints to a region—caricature—which his compatriots did not touch upon with the same accent at all. Only he invented, for his prints, a new rapport between figures and surroundings, and only he was willing to blend the two equally, so that in feeling, the ensemble transcends an effect of decor, no matter how unusual or evocative. If the prints hint at a heightened tension in the human image, the caricatures proclaim it. What distinguishes Tiepolo's prints and caricatures from comparable work about them, what—in fact, allows us to speak of them together at all—is the theme of experimentation and increasing irony which unites them, and which is unprecedented elsewhere. Indeed, while there is no background in the caricatures, the caricature figures are confreres in mood of the *Scherzi* figures.

It might be interesting for someone to examine more thoroughly the problem of this relationship, although, once again, such research, pending further knowledge, would have to rely on a largely intuitive reconstruction of Tiepolo's artistic personality. We do have external evidence, however, which tends to support the argument presented above, notably that provided by dating. Since the pioneering efforts of Otto Benesch and Giorgio Vigni, and more recently, George Knox, there is agreement that chronology of the independent Tiepolo drawings is

fixable by comparing them to drawings obviously relating to dated commissions. By this method, as well as by more careful attention to the changes in the artist's pictorial style, we have gained considerable knowledge as to the evolution of Tiepolo's drawings. Thus, with their contour firmness and synthetic washes, the caricatures are examples of an idiom which does not fully enter Tiepolo's work until about the 1740's or a trifle before. Later, Tiepolo was to pen many more caricatures—not during the Würzburg period, 1750–52, probably because he was too busy then, but sporadically thereafter till his Spanish period and death in 1770. The later specimens, quite rare, are mostly of Punchinelli, and are executed in a peculiar “tottering” and blunted line (examples in the Scholz and Thaw Collections both in New York). The problem of attributing a great many Tiepolesque caricatures is made difficult by the necessity of sorting out many different hands. But in the works illustrated here, the calligraphy has that combination of elasticity and crispness, a stroke that briskly modulates from thin to thick under the delicate bending of the nib, that belongs to Giambattista at mid-century. This information is significant because it provides a locus for the caricatures quite close in time to the prints. It is not impossible that the two developed simultaneously.²⁵ While we do not know which may have taken precedence over the other, it is reasonable to assume that, considering their common emergence, they were related in their author's mind. Certainly no other genre in Tiepolo is as psychologically close to the caricatures as the etchings.

An additional link between the prints and the caricatures is Tiepolo's treatment of the Punchinello figure. Its presence and similar characterization in both forms is a kind of key that reveals their continuity. The Punchinello who is pictured in the fourth *Scherzo* (fig. 5; de Vesme 21) appears in a scene whose other protagonist is a beautiful nude young man in a statuesque pose. And in one of the Punchinelli drawings (Scholz Collection), the dwarf is seen leaning with his back resting against an antique head—like some crude joke in protest against an ideal beauty of form. But this is not quite true, and does not penetrate to the core of Tiepolo's idea. Despite the incongruity of the two images, their effect is not comic. The juxtaposition is reduced to its essentials—ugliness contrasted with beauty, yet Tiepolo would seem to be probing deeper than this cliché.

The dwarf as an artistic motif was going through the last phase of a renaissance during Tiepolo's time. His son Domenico's Punchinelli of 1791–93, installed at the Ca' Rezzonico in Venice, have left the ground and grown up uneasily to full human stature. But they are also the latest creatures of their kind to preserve, though with unmistakable wistfulness as well as an altered form, the aura of the carnival which gave them birth. By that period also, the dwarf on the stage had been swept away by a host of reform theatres.

²⁵ Eduard Sack, *Giambattista und Domenico Tiepolo*, Hamburg, 1910, I, p. 296. An etched plate is mentioned, dated 1744, on which Giambattista and his friend, Count Algarotti, made several drawings, each signing his work. Tiepolo did heads of a magician, a gentleman, a Punchinello, two Satyrs and a nymph, two horses, a medallion and a helmet. Algarotti sketched seven imaginary heads. In addition, Aldo Ravia (“Incisioni su stagno di Francesco Algarotti,” *L'Arte*, XVI, 1913, pp. 58–61) reproduces three Algarotti etchings, in one of which a Punchinello profile appears between that of a satyr and a handsome young man. The plates are dated 1744. Such documents lend support to the theory of the connection between the two genres.

Much earlier in the eighteenth century, however, the popularity of the gnome-like grotesque had spread throughout Europe. From the Belvedere in Vienna and the Mirabell Gardens at Salzburg, and finally, even along the top of the courtyard wall at the Tiepolo-decorated Villa Valmarana at Vicenza (1757), a diminutive population in stone had bemused unsuspecting travelers. Dating from 1714-16, these astonishing creatures resemble Rumpelstiltskins from the forest; with their folk costumes, they are like heavy footed pixies. Despite their static poses, it is most probable that they were all inspired by the celebrated dancing and swaggering *Gobbi* (Hunchbacks) of Jacques Callot (1592-1635). Illustrated books swelling with Calloteries had been circulating over the continent since the beginning of the century. Volumes like the *Liendel Schneckenfest*²⁶ probably published in Augsburg, contain illustrations with a startling resemblance to the Valmarana sculptures. Callot, incidentally, had treated the *Gobbo* as a figure of wit, delighting in his tiny proportions, and in the possibilities of brio in extreme foreshortening and contrapposto. His dwarf was a garrulous beggar or a juggler, and even in the misery of his tatters he possessed a rakish and aristocratic elegance.

Such lighthearted fascination with the deformed fades when we trace the career of the *Gobbo* back into the Renaissance. Veronese, for whom Tiepolo showed the greatest admiration, portrayed dwarfs as adjuncts to festive scenes from the New Testament. Judging from his explanation to the Holy Tribunal of the Inquisition, they were included, along with halberdiers and buffoons, as enrichment or ornament (cf. *The Feast in the House of Levi*).²⁷ Unquestionably, dwarfs, opulent and superior forms of decoration, were often a special feature of the normal Renaissance court.

It was in Antiquity, however, that the legend of the dwarf was not only germinated, but given its most vivid form. Greece actually considered cretins and dwarfs superior to normal human beings. They were wiser, more potent, and, above all, they were not subject to social rules or decorum. The idea of the hunchback as a free and sage spirit, outside of society, but a commentator upon it by his very presence, is of Greek origin. It is not surprising then, that these creatures very early realized the advantages of their status and were joined by hosts of others, simulating deformity, miming and exaggerating whatever natural defects their frames suggested.²⁸ At carnival time, which in antiquity was fused in meaning with the even earlier fertility rite, the dwarfs had their heyday. In an atmosphere of grotesque masks, tolerated licence, and social leveling, the capering dwarf could make of his body a living symbol of the festival's pornographic theme.

Such developments were quickly exploited by the artists of ancient times: there are innumerable representations of malformed individuals from those on Attic red figure vases on through to Roman statuettes of the second century A.D. Not surprisingly, these images depict stock characters from the theatre—dwarfism had long before become a theatrical profession. Phallic

²⁶ The most accessible reproduction from this volume is fig. 61 of Joseph Gregor, *Das Bühnen Kostüm* Vienna, 1921. But no further information or publishing data is given.

²⁷ July 18, 1573. Minutes of the Trial before the Holy Tribunal. Quoted in *A Documentary History of Art*, (Elizabeth G. Holt, Ed.), New York, 1958, p. 68.

²⁸ Erica Tietze-Conrat, *Dwarfs and Jesters in Art*, London, 1951, p. 8.

satyrs, bawdy dancers, potbellied little clowns were decked out farcically in costumes which were typed for the coarsest tastes. It is fairly certain, indeed, that all mimes, clowns and drolls known to Europe were engendered by the Satyr figure of the Old Greek Comedy.²⁹ As for the Roman contribution to this tradition, it is pertinent to recall, for instance, the terracotta figurines of the British Museum in which we see an increasing interest in the ugly and grotesque.³⁰ How prophetic was this union of deformity and theatrical humor can be seen in the fact that its most direct emanation was the Italian *Commedia dell'Arte*.³¹

Undoubtedly Tiepolo's Punchinelli (fig. 6) draw heavily on the mystique of the deformed fool in most of its prior embodiments; but he is most attracted to the image of the dwarf in antiquity. It is no accident that he continually borrowed from the *Commedia dell'Arte*. The presence, moreover, of so many satyrs in Tiepolo's drawings (and paintings, for that matter) is additional testimony to the affinity he felt for the spirit of the old theater.

His more sophisticated friends (they were the only members of the public who could have seen the caricatures and Punchinelli) were perceptive enough to realize this, albeit ironically. Thus, Count Algarotti, who owned many Tiepolo masquerades, wrote to Jean-Pierre Mariette (10 June 1761):

I really think that I possess the most beautiful Polichinelles of the world, from the hand of our illustrious Tiepolo . . . One of them I recommend to you: he is viewed from behind, and is making water against a wall, . . . all his body expresses by his contortions, a sadness so significant that one can call him the Laocoon of Polichinelles.³²

Algarotti's genial idea adds a sardonic note, not out of keeping with Tiepolo's saturnalia, to the interpretation of the Punchinelli: a race of human pendants, footnotes, as it were, to the normal scale of our passions. After Saturn and Apollo, creations larger than life, it is fitting that their successors, Pantalon and Polichinelle, should be smaller than life. These miniature men are hence, perhaps curious, but not titillating in their perversity. They are almost abstract motifs of interchangeability. The dwarf who plays at being the king, the idiot fool who, inhuman himself, is stranger to nothing human, are very much related to the Punchinelli. Shrewdness in the dwarf is the equivalent of beauty in the well-formed human being, an observation first made in

²⁹ Thelma Niklaus, *Harlequin, or the Rise and Fall of a Bergamasque Rogue*, New York, 1956, p. 18.

³⁰ The best general reference on this subject is: Margarete Bieber, *The History of the Greek and Roman Theatre*, Princeton, 1939.

³¹ Niklaus, *op. cit.*, p. 9.

³² "Je crois bien je possède les plus beaux polichinelles du monde, de la main de notre illustre Tiepolo . . . Il y en a un, entre autres, que je vous recommande: il est vu de dos, et en épanchant de l'eau contre un mur, . . . toute sa personne exprime, par ses contorsions, une douleur si significative qu'on pourrait l'appeler le Laocoon des Polichinelles." Quoted in Pompeo Molmenti, *Tiepolo, sa vie, son oeuvre*; Paris, 1911, p. 162. Such a suggestion occurs also in the first biography of Piranesi by Bianconi: "Instead of studying the nude or beautiful Greek statues, which are the only good models [this was published in 1779] he [Piranesi] set himself to drawing the most gangrenous cripples and hunchbacks in all Rome. He loved to sketch twisted legs, broken arms, and sprung hips, and whenever he found one of these horrors by a church door, he thought he had discovered a new Apollo Belvedere or Laocoon, and ran home to draw it." Quoted in A. Hyatt Mayor, *Giovanni Battista Piranesi*, New York, 1952, p. 16.

the Antique, and which Tiepolo is commenting upon in his own way in the Scholz and Thaw drawings.³³

Eventually the image of Punchinello has to be understood within the context in which Tiepolo has placed him. The hunchback, whose grotesque disfigurement is combined with his childish stature, evokes a certain gratification. The one quality, however, unexpectedly cancels out the other, and vice-versa, without their being any perceptible resolution. Like a *cocotte*, Tiepolo's Punchinello is essentially sinful, but overlaid with disarming innocence. Actually, the use of the grotesque form by an artist is a likely indication that romantic or religious sentiment is somewhat foreign to him; thus, even the notion of sin, with its Christian connotations, is quite beside the point. One might want to forgive Punchinello his pranks in advance, but since he is so unreal, they are wont to be rather unsubstantial. He is a peculiar figure of the subconscious, plausible even while fantastic, but ultimately superior to anything so contingent as earthly life—even if Giambattista shows him eating among his comrades, that is, satisfying an everyday need. Domenico Tiepolo, however, goes much further in portraying the masked figure come down to the city, getting married and arrested, etc. (*Divertimento per li ragazzi*, 1791–1800). It is a comedy of manners which Domenico creates, an opera buffa with a continuous narrative thread. Characteristically enough, no such story line exists in his father's version. Punchinello, on the contrary, becomes a puppet and occupies a dream world filled with other puppets. His over-large head, disproportionate to his body, on occasion hangs pendulously in mocking reference both to the stick figures of traditional caricature, and the normal physiology of the creature himself. Domenico's handling would have been too rationalistic and literal for Giambattista, whose more serious intention is to be as equivocal as he can in a light vein.

The theatricalism of his Punchinelli actually contradicts and softens their more alarming occupations. Even the gnome who is stretched out corpse-like on his bed with a sheet over his body, is merely playing at death.³⁴ Though it is more overt, such pretense is an obvious extension of that in the *Scherzi*. What is new, aside from the articulation of a whole set of new shapes, is that the artist has finally broken through his own tone of reverie. But because they are stereotypes, the Punchinelli can only signal or affect a comic situation; despite the best intentions, they cannot be responsible for it.

For such fantasies to release humor, they must deal with human beings not by concealing, but by unmasking them. Approaching this aim in caricature, Tiepolo, in bringing to bear his experience of the *Capricci*, *Scherzi*, and Punchinelli, produces a gallery of Venetians with only minimum domestication: some of the license, if not the high spirits, of the ancient comedy infects them all. So intimate is this mixture of the documentary with the old farce that it is

³³ That his contemporaries attributed similar virtues to dwarfs is well known. Casanova, for instance, speaks with admiration of a small female hunchback, praising, among other things, her talent as an actress. Jacques Casanova, *Memoirs, Adventures in the South*, (Arthur Machen, Tr.), New York, 1960, p. 60.

³⁴ One account possibly illuminates such a treatment: "Pain was insupportable to this people [the Venetians] who had suffered once so keenly. They could not bear with it even on the stage; and if any character in a play was so unfortunate as to be killed, he was sure to be called before the curtain at the close of the act and roundly applauded. 'Bravo i morti', cried the good-natured audience." Philippe Monnier, *Venice in the Eighteenth Century*, London, 1910, p. 191.

sometimes difficult to tell whether the dwarfs have taken off their masks and put on street clothes, or the citizens themselves have decided to parody the Punchinelli.³⁵ At any rate, the *Commedia dell'Arte* frame of reference exists so palpably, that even the most physically disparate types do not entirely escape it. In this situation then, any exaggeration that takes place does not seem entirely arbitrary. It is foreordained even if, because of Giambattista's gift of invention, paradoxically still surprising.

Nevertheless, the most crucial fact in the progression from Punchinelli to independent caricature, is that Tiepolo quite clearly had to modify the vocabulary from which he started. Since he began with the dwarf, or something close to it, his caricature was obliged to protest in the direction of normal appearances! As a result, there are none of the systematic principles of distortion in Tiepolo's caricature which exist in the work of his fellows: those guiding lines which are supposed to lead the typical face by schemed stages into a brutish trap. For Tiepolo, this is far too impersonal. On the contrary, he arrives at a new image by intuitively superimposing an observation of reality upon an underlying structure of the grotesque. His last strokes thus make the image convincing as flesh and blood, while the finishing touch of the conventional eighteenth century caricaturists was meant to remove it into the domain of the comic. Quite often the latter present us with a panorama of types, and we understand that types are being ridiculed; with Tiepolo, the object of amusement is a type who emerges into an individual.

Concerning this, it is instructive to compare Tiepolo's *Standing Man* (fig. 7) with Ghezzi's *Self-Portrait* (fig. 8). Ghezzi's drawing here is quite summary and impatient; he glosses over details such as hands and feet, and there is not much accounting for the natural form which is substituted for by a hasty calligraphic stroking. In Tiepolo's *Standing Man*, though, no matter how simplified, the light and line incisively describe the image. We might say that Tiepolo's man is merely more naturalistic than Ghezzi's, were it not so obvious that Tiepolo's command of form also produces a maximum comic impact. With his absurd appendages which dangle or are upended, and which poke out in six different directions, he is like a completely plumed, but harmless bantam rooster.

One cannot deride a stage clown like Tiepolo's Punchinello for Baldinucci's "purpose of fun," because he reflects derision back whence it came. He is an impervious mirror for folly. But one can direct such feelings towards an individual in real life, all the more successfully if he is not conscious of them. Such an individual is the man in this drawing. He receives the pick of the artist's more ungracious sentiments, and is made to absorb them. Yet he does not emerge as the butt of malice. Unlike the Punchinello, he is no longer an anagram of laughter, but something far richer, a little walking comedy.³⁶

³⁵ A separate, transitional category of these in-between types, the masqueraders, occupies the limbo between social illustration and caricature. While this motif pervades the work of the Tiepolos, Domenico especially, it was never given a definition singularly different from Pietro Longhi's, for instance, or that of other Venetian genre painters.

³⁶ It is not too difficult to see a compositional pun here also. In choreographing, as it were, these awry diagonals, Tiepolo is not above satirizing his own spatial themes as they appear on the ceilings of dozens of Rococo palaces. The same abrupt catapulting of one mass off from another, which allowed him to organize groups of figures across expanses of air, is echoed incongruously within the single figure.

It would be fruitless to argue that the caricatures are more than a by-product of Tiepolo's art. As with so many by-products, though, great resources were required to bring them about. Had Tiepolo been less versatile, or less thoroughly in control, the caricature just mentioned, or any even more short-winded and unassuming, could not have been the exceptional abbreviation it is. Here possibly, Tiepolo stands in opposition to an accepted notion about caricature. One of its dominant traits is supposed to be its insistence on escape from standards of acknowledged artistic skill. Ernest Kris, a psychoanalyst, speaks of the "controlled regression" which is possible "... where representational skill determines the ordinary level from which the virtuoso can let himself drop without danger." He goes on to talk of the playful "artless" quality of caricature, and of its similarity to a child's scrawls.³⁷ Tiepolo, in contrast, does not allow himself to drop, and refuses to be artless. Any of the caricatures in the Platt, Wallraf, or Trieste Collections demonstrates the attention Tiepolo pays to three-dimensionality and the distribution of light over the figure. The forms move in light, which is not to say that motion itself is presented, but that the lines and washes are active. The immobility of the figures contrasts with the energy of the means.

In his restraint, Tiepolo swerves away from what may be called the encyclopedic conception of caricature as it was developed in England, along with the idea of the "elevated comic style." Hogarth and Rowlandson certainly repudiate Kris's "regression"; they make the whole world grist for their satiric mill, an aim that requires the exact opposite of the relinquishing of artistic competence. Theirs is the treatment of caricature as genre, or rather as history, and in order to sustain it, they draw upon all their forces in one definitive, concentrated effort. But Tiepolo's caricatures hide all effort. Making no pretense at universal applicability, they preserve their intimate spirit.

It is clear enough therefore that these drawings are distinct from the far more prolix Northern traditions of caricature. Equally remarkable is the finesse which distinguishes them from the majority of the blunter Italian caricatures, for all their comic radiance. Indeed, in his own tradition, only Guercino's grotesques do not become cacographic when placed next to Tiepolo's. The seventeenth century artist is comparable to Tiepolo in the elegance of his script, his sensitivity to light, and above all, the subtle emotional resonances with which he invests his creatures. In the two illustrations (*figs. 9, 10*), the resemblance of subject and concept is quite close. Yet important differences soon reveal themselves. Guercino's slyly glancing urchin is not a caricature so much as it is characteristic. The artist has seized avidly upon the picturesque facts which were there, but has not seriously altered them. Tiepolo's hunch-backed imp, on the other hand, has been completely re-upholstered. Even more decisive, Guercino's boy is acutely aware of the tempo of life, and one feels that the sheet of paper has isolated him arbitrarily from it, but only for an instant. The Tiepolo, however, is final and self-contained.

Thus, in the last analysis, Tiepolo's caricatures do sojourn in actuality (where they have picked up whatever of the mordant is in them), but not long enough to lose themselves in the crowd. Having been nourished upon the endless caprices of appearances along the canals, they retire to regain their composure in the world of art. Compared to the work of nearly all other

³⁷ Ernest Kris, *Psychoanalytic Explorations in Art*, New York, 1952, p. 189.

caricaturists, Tiepolo's seems to refrain from expressing something of the disorder of human existence. It is as if an extremely refined and aristocratic spirit had descended upon the genre, determined to make its points without horseplay or broad farce. The reticence of Tiepolo's caricatures is quite personal.

We know that these works were, in fact, very private for Tiepolo. Certainly not a little of their charm, or their frequently sinister quality, depends upon the furtive air with which they are penned. It is striking how appropriate this mood is to the intermediate or ambiguous characteristics which arise from the drawings. The creature in fig. 2, with his brooding pose, wears an expression that may be anything from bitterness to resignation, or the Satyr's leer.

All this is paralleled by a motif no less individual, but even more striking because unexpected. Tiepolo has converted into subjects for caricature those innumerable people who, since Mantegna, have impolitely turned their backs on the spectator.³⁸ Even the most complex physiognomy often does not surpass the amount of expression Tiepolo finds in the opposite of the human facade. He may start his explorations of the theme with, for example, the spindly-legged creature in the Thaw Collection (fig. 11), and conclude with an image like that in the Wallraf group (fig. 12), which he permeates with a kind of discreet monstrousness. The back, for Tiepolo, is made to register and then magnify every weakness or peculiarity of the man. As an exercise in pure form, it can safely mock without being trammelled by such disturbances as facial expression. Tiepolo has discovered, in a manner of speaking, the still life of caricature.

All in all, Tiepolo's caricatures derive their particular flavor from the artist's instinctive contrariness. Mischievous rather than vindictive, he can even look upon the act of painting and drawing, which he loved abundantly, as part of life's comedy. Behind the hi-jinks and effortless movement of his *dramatis personae*, he perceives a particle of their futility. It is an irony which he would have appreciated that the *Seated Man* (fig. 2), a most imperfect creature, once seen, lives more vividly in the mind than do any of the visually magnificent and resplendent figures in the *Banquet of Cleopatra* at the Palazzo Labia. Tiepolo, deftly, and with infinite zest, by mocking man's limitations, turns his own into an artistic value.

Thus, paradox is the ruling spirit of these drawings. The artist takes away in order to give. If his motif is picturesque or sensational, he must find the most deadpan presentation for it. He searches for fragile psychological balances so that no element will drop out of focus, nor excess spoil his detachment. His concept of effectiveness arises out of the contrast between two perceptions or images or ideas not susceptible to resolution by logic. When he overcomes this contrast by affection, his caricatures are humoristic, and assume a poetic delicacy. When it is subordinated under the grotesque, his work goes past both imitation and schematization, and exists freely created. Often a Tiepolo caricature will evoke a kindly smile; at other times, compassion or curiosity. Whatever the response, however, the artist's most poignant images are to be found among his caricatures. The compromise between style, license, and observation which they represent opened caricature fleetingly to a new expressiveness, a glimpse of a loftier mode of feeling.

³⁸ As a motif, the back view caricature received its strongest impetus in Venice from Marco Ricci. The back view *macchiette* in Canaletto's *vedute* were probably also a partial source for Tiepolo's caricatures.

FRANCISCO PACHECO AS A PAINTER

by PRISCILLA E. MULLER

It is perhaps because Francisco Pacheco (1564-1654) was not a truly great painter that the significance of his role in the development of seventeenth century painting in Spain has been long neglected. His name is frequently mentioned in art historical sources; contemporaries as well as later art historians emphasize most often his activities as a writer, portraitist and poet (the *Libro de Retratos* of 1599), as the author of a treatise on theories and practices of painting (the *Arte de la Pintura*, published in 1649), or, as a *maestro* whose pupils included such eminent painters as Velázquez and Alonso Cano.

Summary descriptions referring to Pacheco as "an artist of little merit", "arid", "dry", and so forth, have been of no aid in furthering study and appraisal of his oeuvre. Although a painter of lesser originality, Pacheco was nevertheless instrumental in modifying and changing the artistic attitudes of his time, both by the breadth of his interest and teachings, as well as by the examples which he established in many of his paintings. Thus, the understanding of his work is basic to a fuller comprehension of Baroque painting in Spain.¹

The lengthy span of Pacheco's career as an artist (the earliest extant painting is dated 1589, the latest, 1639) may be divided into three periods for convenience of study. Since Pacheco's style does not show a definite progression but vacillates within an over-all sameness of achievement, a division on the basis of chronology, rather than in terms of stylistic change or development is necessary. The years 1611, with the oft-noted visit to El Greco, and 1625, when Pacheco made two journeys to Madrid, residing with Velázquez, by then Painter to the King, have been selected as the dates within which three chronological phases within his career may be established.

Pacheco as a master: 1589 to 1611. Comparatively little is known about the early work and training of Pacheco. Only the artist's own reference in the *Arte* to "... mi maestro, Luis Fernández,"² indicates his apprenticeship with this slightly known Sevillian master. The earliest extant painting by Pacheco is dated 1589; the painter was, at twenty-five, already a master who had accepted his first apprentice.³

¹ This article is an abridgement of material contained in my thesis, *Francisco Pacheco: His Development as a Painter*, written under the most helpful guidance of Professor José López-Rey and submitted in partial fulfillment of the requirements for the degree of Master of Arts at New York University.

² Francisco Pacheco, *Arte de la Pintura* (edición del manuscrito original acabado el 24 de enero de 1638), edited by F. J. Sanchez-Cantón, Madrid, 1956, II, p. 19.

³ Celestino López-Martínez, *Desde Jerónimo Hernández hasta Martínez Montañés*, Seville, 1867, p. 100.

The painting itself, the *Calle de la Amargura*, or *Road to Calvary* (Formerly Seville, Ibarra Collection) cannot be considered indicative of the youthful style of the artist, since, on its reverse, appears the two-line legend: "This painting is entirely the same as another by Luis de Vargas which may be seen on the steps of the Cathedral."⁴ This legend, possibly a later addition in the nature of an appraisal or "guarantee", is not literally true as the Vargas original, now completely lost, was considerably larger in size and had been applied *al fresco* on the wall at the steps of the Cathedral. Unusual in this panel is the rather obvious signature on a classical scroll at the lower right, FRANCISCO PACHECO; more customary was the Latinized *Franciscus Pacevcs*. Also, although Pacheco refers on two occasions⁵ to the "Christ who carries the cross on His shoulders" of the Cathedral by the "*valiente pintor*" Vargas, praising the figurative style of the fresco but criticizing strongly its iconographical errors, frequent references to Pacheco's own paintings include no mention of his copy of 1589.

Even if considered simply as a Pacheco copy of the original by the *romanista* (i. e., mannerist) Vargas, the painting bears little relation to the major series commissioned eleven years later for the cloister of La Merced in Seville, begun, as noted in the *Arte*, in 1600.⁶ Two of these paintings by the mature painter of thirty-seven are conveniently exhibited in the Pacheco Salon in the building for which they were created, now the Provincial Museum of Fine Arts. Stylistically, these two Sevillian canvases, *The Embarkation of St. Peter Nolasco to Redeem the Captives from the Moors*, and *The Appearance of the Virgin of Mercy to St. Raymond Nonnatus*, are more closely related to each other than to their companion, *The Disembarkation of the Captives Rescued by the Mercedarians* in the Museo de Arte de Cataluña, Barcelona. The latter must be slightly later in date, completed after November, 1602. This is suggested by the analogy between one figure in the painting and a drawing, *A Mercedarian* (Madrid, Academy of Fine Arts of San Fernando) which bears the above-mentioned date. Previously unrecognized as such, the drawing (fig. 1) is actually a careful preparatory sketch for the Mercedarian shown in the upper left background of the Barcelona canvas (fig. 2); the painting must therefore be dated either during, or subsequent to, the month of November 1602 noted on the drawing.⁷

In none of these three paintings did Pacheco achieve convincing chiaroscuro, perspective depth, naturalism of movement, or warmth of coloring. The Barcelona example, while still linear and static in manner, modifies somewhat the two-dimensional and appliqué-like qualities of the Sevillian canvases. From the two paintings of Seville, it can be seen that, although aware of Italian Renaissance tastes, Pacheco remains a product of the Flemish tendencies whose influence was so great in sixteenth century Seville. The Barcelona example, however, with its increasing chiaroscuro and warmth shows the artist seeking to develop further into the seventeenth century mood with its heritage of later Renaissance illusionism, so often admired by the painter in the pages of the *Arte*.

⁴ Noted in the *Catálogo de los cuadros y esculturas que componen la galeria formado por el exmo. Señor Doctor D. Manuel López Cepero*, Seville, 1860, No. 865.

⁵ Pacheco, *Arte*, II, pp. 190 and 287.

⁶ *Ibid.*, p. 76.

⁷ Narciso Sentenach, in *Historia y Arte*, 1896, p. 32, cited this drawing as by Eugenio Caxes, perhaps preventing its consideration in relation to the Pacheco painting.

This latter tendency continues and is intensified in the vitality and life shown in the ceiling paintings of the *camarín* in the home of the third Duke of Alcalá, known as the *Casa de Pilatos*, in Seville. The paintings, begun in 1603,⁸ include the central theme, the *Apotheosis of Hercules* (signed and dated 1604)⁹ with accessory canvases including representations of Ganymede, Astrea, Perseus, Phaeton and Icarus. Preparatory drawings, the artist's detailed descriptions in the *Arte*, and the restored ceiling itself, provide a most comprehensive insight into the artist's manner at this date.

In the *Arte*, Pacheco expresses anxiety about the effect of the ensemble of paintings, as well as difficulties with "foreshortening . . . figures in the air, falling, ascending, seated in the clouds."¹⁰ An attempt to solve these problems may be seen in a preparatory sketch, the *Fall of Phaeton* (Madrid, Gómez-Moreno Collection; fig. 3.) Pacheco's final self-satisfaction is visible in the opening line of the sonnet which he composed to accompany presentation of the first canvas to the Duke: "I have dared to give new life to the surface."¹¹ Although Pacheco approached this commission of 1603 with hesitancy, he nevertheless achieved a high point within his range of talent and interest. It was not to be repeated in extant or documented works by the "dry and erudite" master.

Mythological themes, otherwise lacking among the paintings of Pacheco, mannerist qualities of exaggerated movement, sharp foreshortenings, heightened chiaroscuro, anatomical interest in the nude (to be seen again only in his *Last Judgment*): these elements emphasize the importance of Pacheco's *camarín* ceiling series for a thorough grasp of his artistic personality, his range of abilities, his interest in, and susceptibility to, the influences of the later Italian Renaissance.

The remaining years in the first phase of Pacheco's career were almost wholly occupied in fulfilling contractual obligations for paintings of a religious nature.¹² Typical of most ecclesiastical figures by Pacheco are four panels of saints in the Prado Museum, evidently painted in 1608.¹³ Stiff artificiality of stance and gesture, emphasis on detail, linearity, mannered drapery treatment denying existence of the corporeal body, flat and even brushwork, characterize the panels. Easily accessible, these paintings appear to have provided the basis for much previous criticism stressing Pacheco's meagre talents as a painter. However, the qualities considered typical of the artist are less apparent in a similar series, contracted for only two years later, on September 17, 1610, for the altar of St. John the Baptist in the Convent of St. Clement, Seville.¹⁴ Still to be studied in St. Clement, the group evinces a lessening of artificiality, a softening of the previously harsh linearism and a developing awareness of existence within a spatial context, implied by the use of cast shadows.

⁸ Pacheco, *Arte*, II, p. 22.

⁹ The complete inscription and signature appearing on the canvas are given by Joaquín González Moreno, *El Beato Ribera y la Casa de Pilatos*, Seville, 1960, p. 47.

¹⁰ Pacheco, *Arte*, II, p. 22.

¹¹ Pacheco, *op. cit.*, p. 23.

¹² Specific dates and sources for the documents are listed by Sanchez-Cantón, *Apendice al Preliminar, Arte*, I, pp. xxxvii-xlvi.

¹³ Although only one panel, the *St. Agnes*, is signed and dated, the four are apparently from the same retable.

¹⁴ *Documentos para la historia del arte en Andalucía*, University of Seville, 1927-1946, IV, p. 107.

From a brief review of the first period of Pacheco's oeuvre, the artist emerges as a painter of varying interests and degrees of achievement, whose style and manner may be seen vacillating with almost each assignment. Nevertheless, he progresses, within his limited range, in his attempts to incorporate new ideas of seventeenth century naturalism. At the same time he is still affected by the anachronism of early sixteenth century Flemish painting as it continued to be practiced in Seville notwithstanding a superimposed veneer of Italianate mannerism.

The years from 1611 to 1625. During 1611, Pacheco undertook his journey to Madrid, the Escorial and Toledo, evidently with the desire of viewing works of art, collecting further data for the *Arte*, and establishing more direct contacts with artists and art theorists outside his native city. These travels have been considered of such significance in the evolution of the painter that one writer states that Pacheco, following his return to Seville "... had almost conquered Romanism and was capable of working with the problem which interested the epoch ... *claroscuro*."¹⁵ However, progressive elements in Pacheco's writing and painting existed prior to this trip. Developments in paintings before 1611, and the artist's earlier cognizance of artistic trends (evidenced by his collection of master prints and drawings, literary source material collected for the *Libro* before 1599, and his writings in preparation for the *Arte*) have not hitherto been considered. Throughout his career Pacheco incorporates both mannerist and baroque ideas. Significant changes in manner attributable to his visit with El Greco in Toledo are non-existent, as may be seen in the continuity of style visible in works prior to, and following, the year 1611.¹⁶

The *Death of St. Albert* (formerly Seville, Ibarra Collection) has been dated, with reason, circa 1612.¹⁷ While the donor portraits of the predella have been complimented by Mayer as "truly charming", the central painting has itself been described as "painfully literal".¹⁸ The scene of the saint's death, with his body providing a severe central horizontal in contrast to the strict vertical arrangement of the surrounding ecclesiastical figures, is notable for the completely motionless manner in which the subject has been treated. At the upper right, two scroll-bearing angels kneel within an isolated cloud formation, their handling much like that seen in the angels of the *Merced Appearance of the Virgin* twelve years earlier, although somewhat softer in appearance. Some degree of evolution may be noted in the broader and more general modeling, in the use of cast shadows to define spatial existence (already used in the St. Clement panels of 1610) and in the desire for perspective placement, expressed through the meticulously rendered leaf branches scattered on the floor in the foreground plane. The always competent portrait heads of Pacheco are, however, placed within an undefined mass of figures, rendered volumetrically in light and shade, mass and bulk, but still negating actual corporeal existence. Therefore, although minor modifications are suggested in the *St. Albert* panel, these slight

¹⁵ August L. Mayer, *Historia de la pintura española*, Madrid, 1947, p. 276.

¹⁶ Also relevant to these years is the acceptance of the apprentice Diego Velázquez, in September, 1611 (F. Rodríguez-Marín, *Francisco Pacheco, Maestro de Velázquez*, Madrid, 1923, p. 48).

¹⁷ Mayer, *Die Se villaner Malerschule*, Leipzig, 1911, p. 93.

¹⁸ Elizabeth duGué Trapier, *Velázquez*, New York, 1948, p. 16.

variations do not reveal any influence from El Greco but are rather explicable as modifications within Pacheco's own established manner.

Most often referred to in discussions of stylistic change following the 1611 journey, and considered by the artist and later writers as the most important work of his career, was the *Last Judgment*, painted for the Convent of St. Isabel in Seville. Confusion surrounding the actual date of execution may be summarized as follows: (1) extant documents verify that Pacheco contracted for the painting in 1610;¹⁹ (2) the phrase, "Franciscus Pacecus depingebat . . . Anno XI [1611], was included in an inscription on a stone tablet in the foreground of the picture;²⁰ (3) Pacheco states in the *Arte* that he completed the *grande canvas* in 1614.²¹ It may be assumed hypothetically that major efforts on the *Last Judgment* took place following the travels of 1611; stylistic analysis is impossible since the painting itself has disappeared in Paris, whence it was carried by French forces in 1808.²² Evidence as to its appearance is obtainable, however, from an engraving included in a French publication of 1869,²³ and from the particularly complete descriptive passages included by Pacheco in the *Arte*.²⁴

Pacheco acknowledges the influence of prints of the subject, particularly of one after Michelangelo's fresco.²⁵ The emphasis on Michelangelo is not surprising since Pacheco recommended imitating him in art (though not in decorum). Pacheco refers also to *Last Judgment* paintings by Juan Benardino of Naples, Peregrino and Céspedes.²⁶ That changes made by Pacheco were intentional and not simply a result of artistic inadequacies is shown in his comments. Pacheco wished to present an *apacible*, or gentle Christ, and not the forceful figure of the Sistine Chapel, which he criticized as threatening rather than understanding in His relation to man; also, the Virgin was to be seen in repose, not in agitated beseechment, since, "the Judgment of God on this day is so complete . . . additional entreaties would be of no avail."²⁷ Nude figures were to be painted with art and grace, so as not to offend chaste and pious eyes; earthly figures were to be varied in age on the day of judgment, and were not to be of the "stupendous and superhuman" nature of those by Michelangelo, of whom Pacheco, quoting Dolce, says, ". . . whoever sees one figure by Michelangelo sees them all."²⁸

Pride in the achievement of the *Last Judgment* is revealed in the *Arte*. Concerning foreshortening: the angels can be painted on the surface plane only "with much difficulty"; and, the angel "who looks through [i.e., beyond] his feet is the most ingenious of the picture and even, of all which have been painted."²⁹ Regarding perspective: the Archangel Michael appears great in

¹⁹ Sanchez-Cantón, *Apendice*, I, p. xl; contract for the retablo of Carillo de Palma, St. Isabel, dated May 23 and 27, and July 8, 1610. According to the contract, it was to be completed within one year.

²⁰ Pacheco, *Arte*, I, p. 355, includes the full inscription composed for the painting by Francisco de Medina.

²¹ *Ibid.*, p. 257.

²² Conde de la Viñaza, *Adiciones al diccionario de Ceán Bermúdez*, Madrid, 1894, III, p. 209.

²³ Charles Blanc, *Histoire des peintres de toutes les écoles: école espagnole*, Paris, 1869, p. 3.

²⁴ Pacheco, *Arte*, I, pp. 297-308.

²⁵ *Ibid.*, p. 297.

²⁶ *Ibid.*, pp. 299, 300.

²⁷ *Ibid.*, p. 300.

²⁸ *Ibid.*, p. 346.

²⁹ *Ibid.*, p. 303.

size, not as a result of physical largeness, but rather because, of all the many figures, he is closest to our view. A final statement, meaningful in its reference to a specific work seen during the 1611 voyage: "... between the figures ... I have placed my portrait ... following the example of some valiant painters ... principally Titian, who portrayed himself thus in the *Gloria* which he painted for Philip II ... which I saw in the Escorial."³⁰

Flemish immobility, compositional symmetry (stressed, as Pacheco notes, by choice of colors), dichotomy of perspective (separate vanishing points in the earthly and celestial areas), similarity of pose and gesture in the figures, (despite Pacheco's own criticism of a like quality in Michelangelo and notwithstanding attempted variations in age and sex): these elements show that the painter, although exposed to the contemporary modes of painting which he had observed at Madrid and Toledo, and demonstrably more than aware of Italianate sources, still retained all that was characteristic of his own pattern. The close correlation of the description to the engraving, and hence of engraving to the original painting, as well as the artist's esteem for the work, indicate that the *Judgment* accomplished essentially what Pacheco desired and thus permits the evaluation of possible influences in his work circa 1611-1614. It must be considered that, during these years, the ideals of the Italian Renaissance were Pacheco's point of reference, and the traits of Hispano-Flemish painting of the earlier sixteenth century (correctness, reticence and exactitude) remained his heritage. The oft-mentioned "impact" of the visit with El Greco can only be denied in relation to this *Last Judgment*.

A small panel of the *Crucifixion* (Madrid, Gómez-Moreno Collection) is signed and dated 1614 (fig. 1). It is apparently the sole painted version by Pacheco of a theme whose correct interpretation occupies considerable space in the *Arte*.³¹ Most important to Pacheco, both as a *maestro* and as an examiner of paintings for the Inquisition, was the revival of the portrayal of the Crucified with the iconographically correct four nails rather than three. The importance of this small *Crucifixion*, the size of which suggests its use as an example per se, lies in the basic model which it provided for such subsequent seventeenth century painters as Velázquez, Cano and Zurbarán. The conceptual identity which it shares with the Velázquez *Crucifixion* (Prado, No. 1167) has elicited the observation that "there is no doubt that the Velázquez ... was painted under the influence (direct or indirect) of the Pacheco rendition."³²

The Pacheco Christ has been considered to demonstrate a verticality which has been related to El Greco influences absorbed three years earlier; however, any verticality should rather be considered as a factor inherent within the subject itself. The impressive simplicity of treatment and attitude, the air of reticence and serenity and the total quietude of the representation dispute any evidence of El Greco's inspiration in this example of 1614. Careful in its execution, the *Crucifixion* remains compatible with Pacheco's parallel stylistic developments, incorporating

³⁰ *Ibid.*, p. 305. A reproduction of the engraving included by Blanc is presented here for purposes of comparison with the artist's description and in the hope that identification of the "lost" painting with an extant work may still be possible (fig. 4).

³¹ Pacheco, *Arte*, I, Chapter XV, "In Favor of the Painting of the Four Nails with Which Christ our Redeemer was Crucified"; also, Chapter XVI.

³² Manuel Gómez-Moreno, "El Cristo de San Plácido: Pacheco se cobra de un descubierto que tenían con él Velázquez, Cano y Zurbarán," *Boletín de la Sociedad española de Excursiones*, 1916, p. 184.

slightly modified modeling by means of pale blue-greys and brown in light tan flesh areas, with sepia-like tones shading the lowered face.

Interest in realism and movement increases in two paintings of 1616, the *Jesus in the Desert Served by Angels* from the refectory of the nuns in the Convent of St. Clement,³³ and the *St. Sebastian and St. Irene*, which, until its destruction in 1936, was located in the church of St. Sebastian in Alcalá de Guadaira. With regard to the former, greater freedom and spontaneity, as well as a strong interest in problems of light and shade, may be seen in a preparatory drawing (formerly Madrid, Boix Collection). The *St. Sebastian* painting, while static by nature of its subject, reiterates concern for depth, chiaroscuro and fluidity of modeling. Described in detail by Pacheco,³⁴ the *St. Sebastian* is particularly interesting in employing the motif of the framed background scene, illustrating, in this instance, the martyrdom of the Saint (fig. 6). This device is reminiscent of similar methods used by the young Velázquez during his early years in Seville, as seen in the *Christ at Emmaus* (Dublin, Beit Collection) and in the *Christ in the House of Martha and Mary* (London, National Gallery). The increased vividness of execution, especially visible in the martyrdom scene, and the heightened interest in light and shade, suggest the influence or actual assistance of the maturing Velázquez, whose interests in light and shade, and life-like depiction, while still an apprentice, received his master's approbation.

The concern of Pacheco with the proper iconographic representation of the Crucifixion is paralleled in his writings about the then controversial dogma of the Immaculate Conception.³⁵ Intensified interest in this theme during the early 1620's is shown in his paintings as well. Of the many Immaculates attributed to the artist, only three appear significant. Perhaps best known is the canvas including the portrait of Miguel Cid in the Cathedral of Seville; similar in format is that with Vázquez de Leca as donor in a private Sevillian collection (fig. 7); latest of the three in date is the *Immaculate* in the Church of San Lorenzo, also in Seville. All three are almost literal translations of the requirements set forth by their creator in the *Arte*.³⁶ The youthful Mother of God, possessing the two essential beauties of man—of the body and of the soul—stands alone, crowned by twelve stars of pure white and "clothed by the sun," on the convex surface of a transparent and "most clear and visible half moon with its points downward." Above appear "God the Father, the Holy Spirit, or both, [and] below, attributes of the earth are shown in the landscape, and those of the sky, if desired, among the clouds." The vanquished dragon, used by many contemporaries, Pacheco prefers to "forget", saying, "... never do I paint him with good appetite, and I will exclude him wherever I can, in order not to encumber [embarazar] my picture with him." Minor differences between painting and prescription are

³³ Although I was informed at St. Clement in 1958 that the painting was in the cloistered convent, study was not permitted; the painting may be identical with that reportedly in the Ibarra Collection, Seville, since at least 1953.

³⁴ Pacheco, *Arte*, II, pp. 327, 328.

³⁵ *Ibid.*, pp. 208–212, entitled, "The Painting of the Immaculate Conception of our Lady," and, also by Pacheco, the pamphlet, *Apacible conversación entre una tomista y un congregado, acerca del misterio de la Purísima Concepción de Nuestra Señora*, published in March 1620 (cf. José M. Asencio y Toledo, *Francisco Pacheco: sus obras artísticas y literarias*, Seville, 1867, p. lvii).

³⁶ Pacheco, *loc. cit.*

FRANCISCO PACHECO AS A PAINTER



Fig. 1. Pacheco, *A Mercedarian*, Madrid, Academia de San Fernando. (Photo: M.A.S.)



Fig. 2. Pacheco, *Disembarkation of the Captives Rescued by the Mercedarians* (detail), Barcelona, Museo de Arte de Cataluña. (Photo: M.A.S.)



Fig. 3. Pacheco, *Fall of Phaeton*, Madrid, Gómez-Moreno Collection. (Photo: M.A.S.)



Fig. 4. Pacheco, *Last Judgment* (engraving after). (From Blanc, *Histoire...*, 1869, p. 3.)

FRANCISCO PACHECO AS A PAINTER

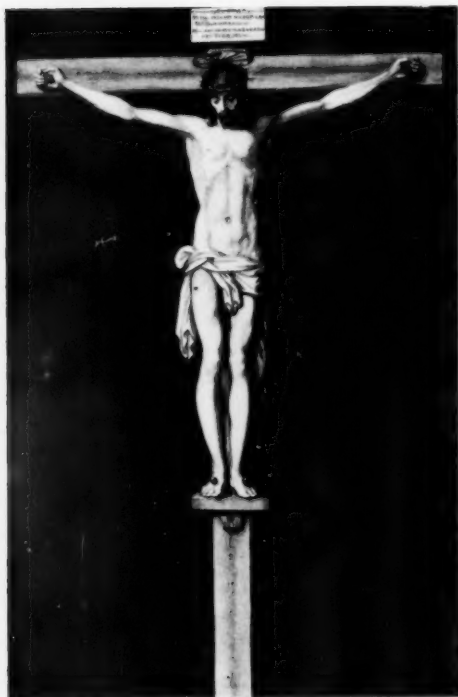


Fig. 5. Pacheco, *Crucifixion*, Madrid, Gómez-Moreno Collection. (Photo: M.A.S.)



Fig. 6. Pacheco, *St. Sebastian and St. Irene* (detail), formerly, Alcalá de Guadaira, St. Sebastian. (Photo: M.A.S.)



Fig. 8. Pacheco, *St. Catherine and St. Theresa of Jesus*, Seville, Provincial Museum. (Photo: M.A.S.)



Fig. 7. Pacheco, *Immaculate Conception with Vázquez de Leca*, formerly Seville, Ibarra Collection. (Photo: M.A.S.)



Fig. 9. Juan de la Miseria, *St. Theresa of Jesus*, Seville, Convent of the Nuns of St. Theresa. (Photo: M.A.S.)

negligible. One exception is in the use of a red tunic and blue robe, rather than the white and blue prescribed by Pacheco. This may perhaps be a reflection of the magenta hues used by Velázquez in shading the white tones in his *Immaculate* of 1618 (London, Frere Collection, National Gallery). The influence of Velázquez on Pacheco during the former's early years in Seville, as well as the reverse, has previously been commented upon in discussing the Immaculates of both painters.³⁷ As in the instance of the Crucifixions, the similarity in concept between pupil and master is apparent. The achievements of Pacheco in the two earlier Immaculates with donors, circa 1621, include an enhanced plasticity of form, a fluidity of modeling and an increased naturalism in the donor portraits—all qualities which may suggest Velázquez influences. Still, the two canvases illustrate, in addition to the possibly receptive nature of Pacheco, a specific and identifiable stage within the evolution of his own manner as a painter.

Dated approximately three years later,³⁸ the *Immaculate* in the church of San Lorenzo, is of interest as post-dating the recall of Velázquez to Madrid from Seville, during the spring of 1623. The prayerful attitude seen in the Virgins of 1621 is here replaced by hands quietly crossed on Her breast; a greater softness in portrayal of the central figure is evident. However, the desire for the specifics of actual landscape remains, despite their absence in the Velázquez *Immaculate*. Angel figures of this 1624 *Immaculate*, if compared with those in the *St. Raymond* canvas of circa 1600–01, illustrate the progress made by Pacheco toward naturalism and convincing movement. Weight and bulk successfully achieved in the seated saints of the upper right may reflect, however, the Velázquez seated *St. John on Patmos* (London, Frere Collection, National Gallery) painted circa 1618.

Thus, during the years from 1611 to 1625, Pacheco developed an intensified awareness for subtleties of modeling and naturalism of depiction. While admiration for the ideals of the High Renaissance continues, modifications of style reflect a new alertness to Caravaggesque illusionism and chiaroscuro, and finally, for the methods used by his son-in-law, Velázquez.³⁹

³⁷ Cf. Trapier, *op. cit.*, p. 34, and Diego Angulo Iníguez, "Velázquez y Pacheco," *Archivo Español de Arte*, Madrid, No. 92, 1950, pp. 354–355.

³⁸ Sanchez-Cantón, *Apendice*, I, p. xlv, gives the date 1624, denying the 1620 given by Asencio; the contract for the retablo of the Conception, San Lorenzo, is dated July 7, 1623 (*Documentos . . . Andalusia*, *op. cit.*, VII, p. 65).

³⁹ Velázquez's marriage to Doña Juana Pacheco took place on April 23, 1618. One additional painting by Pacheco during these years, stylistically datable circa 1615, is of interest as an exact translation of his iconographical prescriptions: the *Annunciation* of the main retablo in the Church of the University of Seville. The painting has a long history of attribution to Pacheco (Ponz, 1780, Ceán Bermúdez, 1800, Asencio, 1886, Viñaza, 1894, Mayer, 1911 and 1942, Sanchez-Cantón, 1956). However, J. Hernández-Díaz, in *La universidad hispalense y sus obras de arte*, Seville, 1942, p. 22, includes it as by a *romanista* "like" Alonso Vázquez, stating that he does not know where the *Annunciation* mentioned by Pacheco as in the University can be; Martin S. Soria, *Art and Architecture in Spain and Portugal*, Baltimore, 1959, p. 381, notes the retablo *Annunciation* as "documented as by Mohedano," but supplies no basis for this statement. Although the present location of the painting, high in the retablo, precludes conclusive stylistic evaluation, this *Annunciation* adheres most closely to Pacheco's description and appears representative of his oeuvre.

Also in the University church are two small copper panels, the *Annunciate* and the *Archangel Gabriel*, reproduced by Hernández-Díaz, *loc. cit.*, as by Pacheco. The history of these two half-length studies is similar to that of the *Annunciation*. The Virgin appears as an earlier prototype of the Virgin seen in the San Lorenzo *Immaculate*; the *Gabriel*, in strict profile, seems somewhat alien to Pacheco.

The later years: after 1625. The frequent visits of Pacheco to Madrid during the 1620's—in October of 1624, during the year 1625, and in August of 1626—testify to his desire to be near his now-renowned former student. Admiration for, and even emulation of Velázquez's work is recorded often in the *Arte*. A specific instance of such feeling is presented in the writer's defense of *bodegón*, or still-life painting: "... if [*bodegones*] are painted as my son-in-law paints them ... they merit the greatest admiration, since ... he found the true imitation of the natural ...". And, "... at one time, while in Madrid in 1625 ... I ventured myself to paint ... a small canvas with two figures from nature, flowers, fruits and other things ... that which I attained sufficed to make all the things previously done by my hand appear painted."⁴⁰ However, the resultant painting, of such value as an unquestionable reflection of Velázquez influence and so lauded by its creator, is among his lost works.

A signed and dated painting of the same year, the *Knight of Santiago* (Williamstown, Lawrence Art Museum) offers an opportunity to investigate Pacheco's attitudes as a portraitist in the light of his close relationship with Velázquez during 1625. Although the similarity of the *Knight* to a Velázquez portrait of 1623, the *Luis de Góngora* (Boston, Museum of Fine Arts), has already been noted,⁴¹ it should be remembered that the *Góngora* still reflects methods learned by Velázquez while in the studio of Pacheco. The Pacheco *Knight*, while similar in composition to the *Góngora*, illustrates an adherence to basic principles evolved in the painter's own comparable portrait drawings executed prior to 1599. Emphasis on detail, linearity and dryness of brushwork, suggest Pacheco portrait techniques as seen in the *Libro* drawings of 1599, rather than Velázquez methods. The *Knight* is also more closely comparable to Pacheco's donor portraits in the Immaculates of 1621, and to the head of the Saint in the *St. Sebastian* painting of 1616.

An additional pair of donor portraits from a predella of about 1628 (Seville, Provincial Museum), while illustrating a similar self-consciousness of attitude, yet appears rather more advanced in their more "painterly" portrayal.

A small copper panel painted during the early 1630's and located above the prelate's chair in the Chapter Room of Seville Cathedral, portrays a standing *St. Ferdinand*, whose pose is similar to that in Court portraits by Velázquez. While maintaining a stiffness of attitude, the placement of the Saint within an interior setting is reminiscent of that seen in the Velázquez *Philip IV* (New York, Metropolitan Museum) or in the *Count-Duke of Olivares* (New York, Hispanic Society of America) and probably reflects acquaintance with either, or both canvases.

Two Pacheco drawings of seated saints of 1632 may be used to suggest the adaptive as opposed to the original manner of the artist. Comparison of the *St. John the Evangelist* (London, British Museum) with the earlier Velázquez painting of the same subject, previously noted, illustrates the strength of draftsmanship possible in Pacheco's later years when he has at his command a worthy model. The *St. Mark* (London, Witt Collection, Courtauld Institute), with its notable lack of strength and vigor, is the result obtained by Pacheco in the absence of such a substantial example.

⁴⁰ Pacheco, *Arte*, II, p. 137.

⁴¹ Trapier, *op. cit.*, pp. 84, 85. The *Góngora* was painted by Velázquez in Madrid, at the request of Pacheco, then in Seville, for the latter's use in a projected second book of portraits.

The last large group of Pacheco paintings, the many similar panels of saints in the Provincial Museum of Seville, does not contribute in any way to the general development of baroque painting in Spain. Pacheco, in the mid-1630's, has been far surpassed by the generation which followed him. The thirteen panels, evidently from retables painted circa 1635,⁴² simply summarize the essential characteristics of the basically unchanging formulae employed by their creator; their closest stylistic parallels in the Provincial Museum may be seen in works of the Hispano-Flemish school of Seville dated almost a century earlier. Regardless of influences exerted on the artist during his career, the all-encompassing sameness of his style resists, in the final analysis, all efforts toward modification or toward assimilation of baroque principles.

One panel, however, is of interest in revealing yet another source possibly referred to by the artist. The horizontal composition, *St. Catherine and St. Theresa of Jesus* (fig. 8) differs from the companion panel representing *St. Catherine of Siena and St. Lucy* in its singular lack of figural interrelationship. St. Theresa, who does not interact compositionally with her companion, appears rather as an intrusion or vignette; even within the conservative manner of Pacheco, she appears retrogressive. In the Convent of the Carmelites in Seville, there existed an earlier portrait of *St. Theresa of Jesus* by Fray Juan de la Miseria (1526-1616) (fig. 8). It is so like the Pacheco insertion that it may be regarded as providing the basis for the Pacheco interpretation. Also, Pacheco's knowledge of the Juan de la Miseria painting is noted in the *Arte*, where the painting is described as a work "... whose copies have resulted in so many marvels in the glory of our Supreme Lord."⁴³ One of these copies is undoubtedly to be found in the Pacheco St. Theresa who appears so conspicuously in the Seville Museum panel.⁴⁴

In summary, it may be seen that Pacheco, though lacking in original genius, is still of great interest for the art historian through his many-faceted contributions to, and reflections of, the development of early baroque painting in Spain. Less than creative, yet essentially non-eclectic, he treated the problems encountered in spanning two vital centuries. Influences are seen in his painting which have their beginnings in Hispano-Flemish refinements of the early sixteenth century, develop in veneration of the Italian Renaissance (although not without critical evaluation), then move, through mannerism, toward an awareness of baroque Caravaggism, and finally attempt to partake of the developments achieved by the most vital of seventeenth century Spanish painters, his former pupil, Velázquez.

As his iconographic studies established the rule, and his paintings often the pattern, the theories and the art of Francisco Pacheco remain meaningful throughout the seventeenth century in Spanish painting and may often be seen reflected in the works of that nation's foremost artists, Velázquez, Cano, and Zurbarán.

⁴² Antonio Ponz, *Viaje de España*, Madrid, 1948 ed., wrote, in 1780, that the *St. Peter* of the series was signed and dated 1635. A contract with Miguel Cid for the paintings of a retable in San Francisco de Paula is dated July 18, 1635 (López-Martínez, *Arquitectos, escultores y pintores vecinos de Sevilla*, Seville, 1928, p. 139). Viñaza, *op. cit.*, p. 205, states that the panels were obtained at the sale of the Convent of the Nuns of the Passion and of San Francisco de Paula, where they were situated.

⁴³ Pacheco, *Arte*, I, p. 358.

⁴⁴ The *St. Theresa* figure may derive from an engraving similar to both paintings, such as that by Hieronymus Wierix following the title page of Diego de San Joseph's *Compendio...*, Madrid, 1615, or that by Baptista Vilar appearing on the title page of D. Joseph Dalmau's *Relación...*, Madrid, 1615 (both, Library of the Hispanic Society of America).

A SELECTED HANDLIST OF PAINTINGS BY PACHECO

Alcalá de Guadaira, St. Sebastian

St. Sebastian Attended by St. Irene. Canvas. 1616 9' 7" × 7' 1". Destroyed in 1936.

Barcelona, Museo de Arte de Cataluña

Disembarkation of the Captives Rescued by the Mercedarians. Canvas. Circa 1602-03. 6' 8" × 8' 3".

Madrid, Gómez-Moreno Collection

Crucifixion. Wood panel. Signed and dated: 1614. 23" × 15".

Madrid, Prado Museum

St. Agnes. Wood panel. Signed and dated: .F. Paciecus. 1608. 40 1/2" × 17 1/2".

St. Catherine. Wood panel. 1608. 40 1/2" × 16 1/4".

St. John the Baptist. Wood panel. 1608. 39" × 17 1/2".

St. John the Evangelist. Wood panel. 1608. 39" × 17 1/2".

Seville, Cathedral

Immaculate Conception with Miguel Cid. Canvas. Signed and dated 1621. 4' 11" × 3' 7".

St. Ferdinand. Copper panel. Circa 1634. 12" × 9".

St. Ferdinand Receiving the Keys to Seville. Copper panel. 1634. 17" × 16".

Seville, Casa de Pilatos

Apotheosis of Hercules, Ganymede, Astrea, Persens, Phaeton, Icarus. Ceiling panels on canvas. 1603-04.

Seville, Ibarra Collection (formerly)

Road to Calvary. Wood panel. Signed and dated: francisco / pacheco / fecit ANNO 1589. 28 3/4" × 21 1/4".

Immaculate Conception with Vázquez de Leca. Canvas. Signed and dated: 1621. 6' 10 1/4" × 5' 1".

Death of St. Albert. Wood panel. Signed and dated 1612 on donor portrait of two males, formerly appended, as was that of two female donors, below the central scene. The death scene alone: 3' 7 1/4" × 2' 8 5/8".

Portrait of a Man as Donor. Canvas. Circa 1616 (?). 11 3/8" × 9 3/4".

Portrait of a Woman as Donor. Companion to above.

Seville, Provincial Museum

Appearance of the Virgin of Mercy to St. Raymond Nonnatus. Signed 16 lower left. Canvas. Circa 1600-01. 6' 7 3/8" × 8' 2 1/8".

Embarkation of St. Peter Nolasco to Redeem the Captives from the Moors. Canvas. Circa 1601-02. 6' 7 3/8" × 8' 2 3/8".

St. Benedict, Abbot. Wood panel. 1635. 22 1/4" × 11 3/8".

St. Catherine and St. Theresa of Jesus. Wood panel. 1635. 11 3/4" × 24 3/8".

St. Catherine of Siena and St. Lucy. Wood panel. 1635. 11 3/4" × 24 3/8".

St. Dominic of Guzman. Wood panel. 1635. 42 7/8" × 15".

St. Francis of Assisi. Wood panel. 1635. 42 7/8" × 15".

St. Francis of Assisi. Wood panel. 1635. 22 1/4" × 11 3/8".

St. Isabella of Portugal. Wood panel. 1635. 22 1/4" × 12".

St. Jerome. Wood panel. 1635. 22 1/4" × 11 3/8".

St. John and St. Matthew. Wood panel. 1635. 10 1/4" × 19 5/8".

St. Louis, King of France. Wood panel. 1635. 22 1/4" × 11 3/8".

St. Luke and St. Mark. Wood panel. 1635. 10 1/4" × 19 5/8".

St. Peter the Apostle. Wood panel. 1635. 22 1/4" × 11 3/8".

Portrait of a Couple in the Prime of Life. Wood panel. Circa 1628. 14 1/8" × 23 5/8".

Portrait of an Elderly Couple. Wood panel. Circa 1628. 14 1/8" × 23 5/8".

Seville, St. Clement, Altar of St. John the Baptist

Accessory paintings, prophets and saints. Canvas and wood. 1610-1613.

Seville, St. Clement, Refectory of the Nuns (Cf. footnote 33)

Jesus in the Desert Served by Angels. Canvas. 1616.

Seville, San Lorenzo

Immaculate Conception. Canvas. Dated 1624. 6' 7" × 6 ft. 11".

Seville, University Church

Annunciation. Canvas. Circa 1615. 4' 11" × 4' 1".

Annunciate Virgin. Copper panel. 1623. 16 1/2" × 12 5/8".

Archangel Gabriel. Copper panel. 1623. 16 1/2" × 12 5/8".

Williamstown, Lawrence Art Museum

Knight of Santiago. Canvas. Signed and dated:

Franco Pacheco / 30 de Julio 1625. 22 1/2" × 18 1/4".

DRAWINGS OF BRUNELLESCHI'S MECHANICAL INVENTIONS FOR THE CONSTRUCTION OF THE CUPOLA

by GUSTINA SCAGLIA

In the early fifteenth century, two men were sufficiently outstanding in technological inventiveness to warrant comparison with Daedalus and Archimedes: Filippo Brunelleschi (1377-1446) in Florence and Jacopo Mariano (1381-?1458) in Siena.¹ Several sketchbooks prepared by Mariano in the decades 1430-1449 reveal his keen interest and ingenuity in all manner of technical devices, but little is known about his practical experience. While we do not have drawings from Brunelleschi's hand, the cupola of the Cathedral in Florence testifies to daring feats of engineering, and the Opera's documents reveal his foresight and grasp of problems involved in constructing it as he alone had determined. His biographer, Antonio Manetti, says that his experience in making clocks and alarm-clocks with many and complicated wheel systems helped him to devise various machines for hauling and hoisting which he had foreseen were necessary; that he went to the shops of wood-turners and metalsmiths with such novel forms and ideas for objects to be made that they had difficulty understanding what he had in mind.²

As long as no attempt was made to trace the origin of mechanisms copied innumerable times in Quattrocento sketchbooks—those of Giuliano Sangallo, Francesco di Giorgio and Leonardo come to mind³—it was probably difficult to believe that some of them derived from Mariano's

¹ The title, *architectus arte daedalaea*, which appears on the monument to Brunelleschi in the Duomo was phrased on May 19, 1447 (cf. Cesare Guasti, *La cupola di Santa Maria del Fiore*, Florence, 1857, Doc. 121). In Mariano's *De machinis* of 1449 (Bibl. Marciana, Venice, Ms Lat. VIII, 40; formerly Ms a. 430, I, 295), a later hand added the note: *Mariani Jacobi cognomen Taccolae nec non et cognomen Archimedes Senensis*.

² A. Manetti, *Vita di Filippo di Ser Brunellesco*. Ed. Elena Toesca, Florence, 1927, pp. 19, 54. Vasari, using Manetti's biography and probably other sources, characterizes him as the inventor constantly absorbed in the work of "developing and creating ingenious and complex devices; solving mechanical problems by spending all his time with the workmen or learning from the evidence in Roman buildings." For these and further characterizations, see Vasari-Milanese, *Le vite de' piu eccellenti pittori, scultori e architettori*, Florence, 1878, II, pp. 333, 359 and *passim*. See also C. von Fabriczy, *Filippo Brunelleschi*, Stuttgart, 1892, pp. 339-382 for a general review of Brunelleschi's work in mechanics and engineering.

³ In his study of Giuliano Sangallo's sketchbook (*Il libro di Giuliano Sangallo*, Cod. Vat. Barberini Lat. 4424, Turin-Leipzig, 1910, Text. vol., pp. 61-74), Huelsen restricted his analysis to listing or reproducing those drawings of the same implements which fill the manuscripts of a number of anonymous artists. (*continued*)

drawings, while others might be connected with Brunelleschi's construction of the cupola. The occasion to investigate this question presents itself in a copybook, called a *Zibaldone*, compiled by Buonaccorso Ghiberti (1451-1516), grandson of Lorenzo Ghiberti, and a contemporary of the leading architects in Florence and Siena in the second half of the fifteenth century.⁴ It includes drawings which may be traced to dated manuscripts (1430-1449) by Jacopo Mariano, as well as sketches of mechanical devices which crop up time and again in the sketchbooks of Buonaccorso's contemporaries without necessarily being new inventions of those decades.

Explanatory notes accompanying mechanical drawings are rare in artists' sketchbooks, but those appended to some drawings in the *Zibaldone*, and one in Giuliano Sangallo's *Taccuino*, offer the possibility of associating them directly with Brunelleschi's innovations. Furthermore, a number of other drawings found only in the *Zibaldone* reproduce Brunelleschian devices which are either described by Vasari or whose working parts are specified in the building documents.

The threaded hanger on f. 117r. of the *Zibaldone* (fig. 12) bears the notation, *chon questo si voglieva el chastelo della chupola*, and this can only refer to the cupola in Florence. The *chastelo*, as we shall see later, is the crane which operated in conjunction with the hoist on the pavement. The hoist on f. 104r. (fig. 4) is without identification, but the same device in Sangallo's *Taccuino* includes a note which places it among the Brunelleschian inventions, for it states that it was used to construct the lantern *de la chupola di S. Liperata*.⁵

The latter drawing will be discussed when we consider the problems of the lantern. For the moment, it suffices to point out that specimens of the iron hangers on f. 117r. are preserved in

The various monographs on Francesco di Giorgio by Selwyn Brinton, A. S. Weller, and Roberto Papini neglect a critical analysis of his mechanical drawings. More than a century ago a number of manuscripts with mechanical devices were attributed to Francesco di Giorgio by Carlo Promis (*Della vita e delle opere degli italiani scrittori di artiglieria, architettura e meccanica militare* in the publication by Cesare Saluzzo, *Trattato di architettura civile e militare di Francesco di Giorgio Martini*, Turin, 1841). Huelsen's list of these manuscripts (*op. cit.*, p. 62) follows Promis' attributions by and large, but it is clear that the problem needs extensive study. Giovanni Canestrini ("I trasporti pesanti nell' antichità e nel medio evo," *Appendice del Bollettino ferrovie, tranvie ed automobili*, No. 11, 12, 1940, pp. 1-23) traced a few of Francesco's drawings to his compatriot, Jacopo Mariano. Thanks to a collection of photographs of manuscripts in the *Archive of Drawings of Renaissance Architects* at the Institute of Fine Arts, New York University, I was able to draw this conclusion before Canestrini's article came to my attention recently.

Leonardo's fame as an engineer, together with his scientific study of mechanics in numerous drawings and treatises, have been so interpreted as to have the entire question of mechanics weighted in his favor. However, Canestrini (*Leonardo, costruttore di macchine e veicoli*, Milan, 1939, p. 32) has suggested that Leonardo's contribution lies in the systematic investigation of the component elements of machines already in use. The theory is fully confirmed by the drawings in the *Zibaldone* that are duplicated by Leonardo but which can be traced to the first half of the century.

⁴ Bibl. Naz., Florence. Ms BR 228. A study of the entire codex was undertaken by me at the suggestion of Prof. Richard Krautheimer, and was presented as a dissertation (*Studies in the Zibaldone of Buonaccorso Ghiberti*) at New York University, Institute of Fine Arts. Plans to publish it are in progress. I wish to thank Dr. Alberto Giraldi, Director of the Biblioteca Nazionale, for granting permission to publish some of the drawings, and Dr. Eugenia Levi, Head of the Mss. Division, for many courtesies.

⁵ R. Falb, *Il taccuino senese di Giuliano Sangallo*, Siena, 1902, f. 12: *chome si mu (ove) la champana de la chupola di S. Liperata*. A somewhat different wording was read by Stegmann and Geymüller (*Die Architektur der Renaissance in Toscana*, Munich, 1885-93, I, p. 48, n. 3): *chome si muro la lantterna de la gupola di S. Liparatta*. The words in question are now all but obliterated in the manuscript, but they are of little consequence to our problem.

the magazines around the lower drum of the cupola. Iron turn-buckles like the ones illustrated on f. 104r., and heavy iron lewises such as those recorded on f. 119r. (fig. 14), are likewise preserved in the magazines.⁶ Vasari attributes to Brunelleschi the "revival" of iron lewises (identified in our drawing, *livela da levare pessi*), and adds that from his study of Roman architecture Brunelleschi devised all the implements for setting stone blocks (*tolse tutte le collegazioni e di pietre e d'inpernature e di morse*).⁷

Drawings of the iron implements discussed thus far may be found in various sketchbooks, but the Zibaldone contains some devices which were not duplicated by the author's contemporaries. It is tempting to assume, therefore, that Buonaccorso had access to sketches made or collected by his grandfather or his father, Vittorio Ghiberti, or possibly by Brunelleschi himself. This supposition is partly confirmed in one of his unpublished notebooks where he states that he inherited *disegni e roba d'ingegneria*.⁸

The Zibaldone itself demonstrates the truth of the statement. On f. 115r. (fig. 9) is a sketch of an apparatus for operating the movement of ropes. It consists of a wood frame containing a pair of toothed wheels which engage a lantern gear when a crank (*manicho*) is turned. The accompanying note explains that the iron crank makes it move faster than if it were turned by the ordinary handlebars which are also shown in the drawing (*Questo manicho di fero perche vadia piu forte che chola—cross—p[er]rebe troppo*). Below is a sketch of an oval frame on which are suspended innumerable, small tubes. Alongside an enlargement of one of the tubes is a note which explains that when the cord is pulled, six or eight lights go on in a flash: *Questo chanone e di fero istangniatto apichatto in sul ttrono che ve dentro una lucierna di rame che a uno filo di fero di sotto che tiratto uno spacho chome vedi disengniatto fa ischizzare fuori e lume. E uno ispagho ne pingnie 6 o 8 in modo che quando e ttenpo tutti a un otto venghono fuori*.

Evidently it is some sort of multiple igniter. But one would be at a loss to understand its function were it not for Vasari's statements which amount to a description of the drawing, to the extent that it would seem to have been his source of information.⁹ In his lengthy account of Brunelleschi's festival apparatus in the church of San Felice, one part of the complicated mechanism is said to have had a frame in the shape of a mandorla and many lights attached to it; when operated by a crank, countless lights turned off and on instantaneously.¹⁰

This first selection of drawings hints at the possibility that Buonaccorso had access to additional sketches of Brunelleschi's inventions that were not available to his contemporaries; that

⁶ See Paolo Sanpaulesi, *La cupola di Santa Maria del Fiore: Il progetto, la costruzione*, Rome, 1941, figs. 10–13.

⁷ Vasari-Milanesi, *op. cit.*, II, p. 338.

⁸ Mrs. Trude Krautheimer-Hess very kindly told me she found this bit of information which corroborated some theories I had formulated in the course of studying the codex.

⁹ Vasari was a close friend of Cosimo Bartoli who inherited Buonaccorso's Zibaldone, as a note on the first folio indicates.

¹⁰ Vasari's lengthy description of the spectacle and its equipment (*op. cit.*, p. 377) includes the statement: *Dentro a questa mazza degli otto angeli era una mandorla di rame vota dentro, nella quale erano in molti buchi certe lucernine messe in sur un ferro a guisa di cannoni; le quali, quando una molla che si abbassava era tocca, tutte si nascondavano nel voto della mandorla di rame, e, come non si aggravava la detta molla, tutti i lumi per alcuni buchi di quella si vedevano accesi*.

other implements in a section of the Zibaldone which ranges from fols. 95r. to 119v. may also be connected with Brunelleschi's work. Admittedly, sequence alone does not constitute evidence for the attribution since drawings of fortresses, artillery and other architectural details (fols. 96r. through 98r.; 108v. through 114r., including blank folios), known to derive from other sources, do appear in this sequence of folios. Nevertheless, the intervening drawings belong to different phases of the compilation, for in style and color of ink they stand apart from the series which I would associate with the building of the cupola. Thus, on the basis of their place in the codex, the color of ink, and the style, the following form a unit with the lewis and turnbuckles on f. 119r. and the threaded hangers on fols. 116v., 117r.: ring and nail extractors on f. 116r. (*fig. 10*); a plumb-line on f. 117v. (*fig. 13*); a bucket hoist on f. 119v. (*fig. 15*).¹¹

A feature of the bucket hoist and the festival apparatus (*fig. 9*) which warrants mention here because of questions which will arise in the discussion of the hoists is the lantern gear engaging a toothed wheel. These mechanical parts belonged initially to mills, first introduced in Venice in 1332.¹² In the years 1410–1430, sketches of the mechanical parts of mills are ubiquitous in the codices of German engineers and the manuscripts of Jacopo Mariano.¹³ At this time, interest in mills and mechanical principles was not restricted to engineers, for problems of this sort began to fascinate both artists and humanists. As a consequence, they have a place in the treatises of Filarete and Francesco di Giorgio, and are discussed at length in a treatise sometimes attributed to Leon Battista Alberti.¹⁴ Among other questions investigated by scholars was that of the mechanical principle of clocks and hoists. Vasari repeats Manetti's statement regarding Brunelleschi's activities in clock-making, adding, however, that "through the acquaintance of certain scholars his imagination was active in the problems of motors, weights and wheels, how they could be turned and by what forces they were moved."¹⁵

The Zibaldone contains a number of drawings of very common hoisting devices worked by hand or foot, but two hoists (*figs. 1, 3*) and a gear (*fig. 2*) are remarkable for their advanced mechanical principles. Since the Zibaldone does include drawings of implements used by Brunelleschi in the construction of the cupola, the question arises whether these, too, may not be Brunelleschi's inventions. Evidence in support of that conjecture may be found in the mechanical parts included in the design, in the notes in cryptogram accompanying the drawings, and in the way these are related to the Opera's documents.

¹¹ For other drawings of ring and nail extractors, see Leonardo da Vinci, *Codex Atlanticus* (Accademia Nazionale dei Lincei, *Il Codice Atlantico di Leonardo da Vinci*, Milan, 1894), f. 339v.-b; for the turnbuckles and lewis, *ibid.*, fols. 10v.-b, 339v.-a; for the threaded hangers reproduced by Giuliano Sangallo, see R. Falb, *op. cit.*, f. 44, and C. Huelsen, *op. cit.*, f. 13r., and by Leonardo, *op. cit.*, f. 389v.-b. For the plumb-line and bucket hoist illustrated by Leonardo, *op. cit.*, fols. 7r., 8r.-b.

¹² F. M. Feldhaus, *Die Technik der Vorzeit*, Leipzig, 1914, col. 1327.

¹³ Illustrations from German and Italian manuscripts are reproduced in several publications by F. M. Feldhaus: *Die Technik der Vorzeit*, Leipzig-Berlin, 1914; *Die Technik der Antike und des Mittelalters*, Potsdam, 1931; *Die Maschine im Leben der Völker*, Basel, 1954. The alphabetical listing according to types of mechanical parts in the first mentioned is most useful.

¹⁴ For the contents of the treatise and questions relating to the attribution, see G. Mancini, *La vita di Leon Battista Alberti*, Florence, 1882, pp. 325–328 and n. 2.

¹⁵ Vasari-Milanese, *op. cit.*, p. 330.

DRAWINGS OF BRUNELLESCHI'S MECHANICAL INVENTIONS

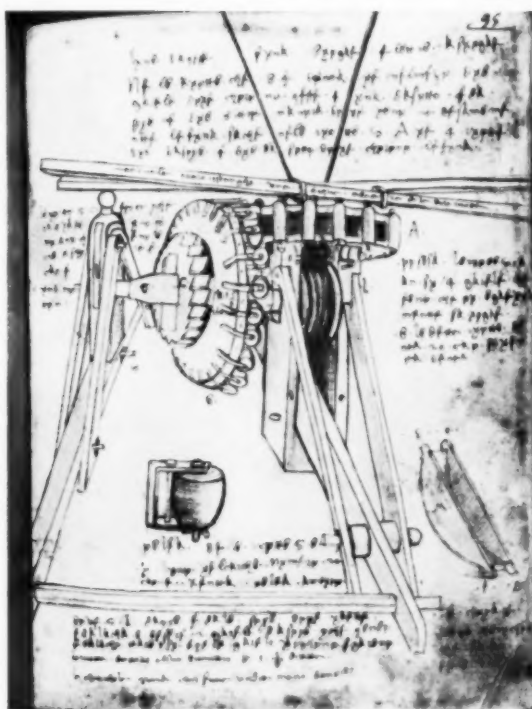


Fig. 1. Florence, Bibl. Nazionale, Ms BR 228, f. 95r.



Fig. 2. Florence, Bibl. Nazionale, Ms BR 228, f. 98v.

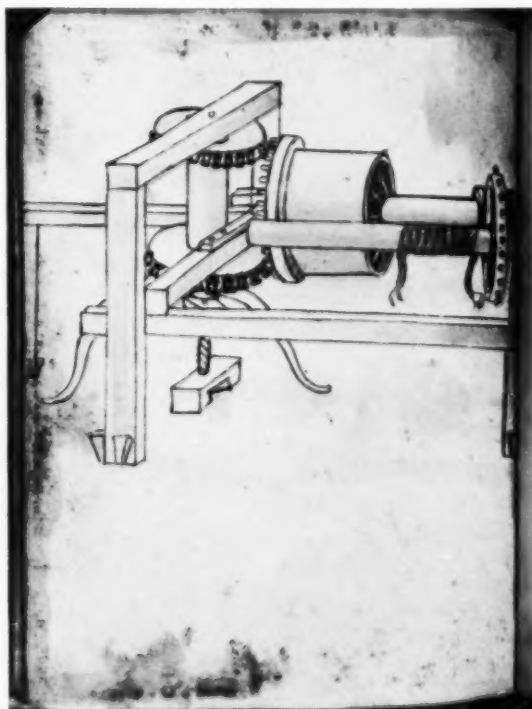


Fig. 3. Florence, Bibl. Nazionale, Ms BR 228, f. 103v.

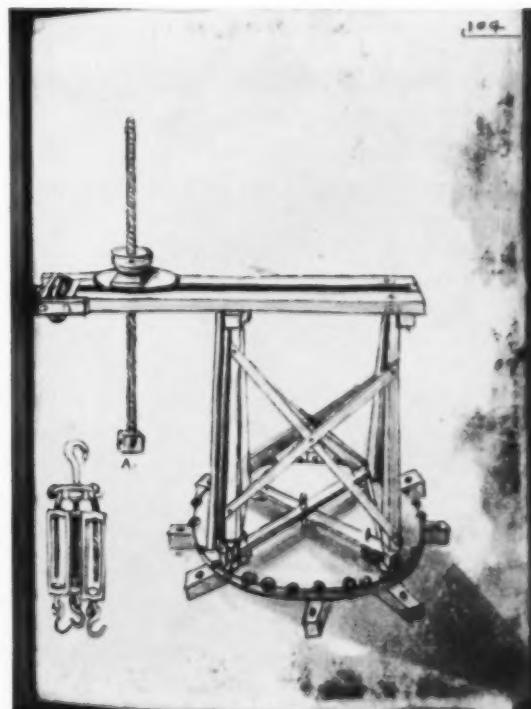


Fig. 4. Florence, Bibl. Nazionale, Ms BR 228, f. 104r.

(Photos: Courtesy Bibl. Nazionale, Florence.)

DRAWINGS OF BRUNELLESCHI'S MECHANICAL INVENTIONS

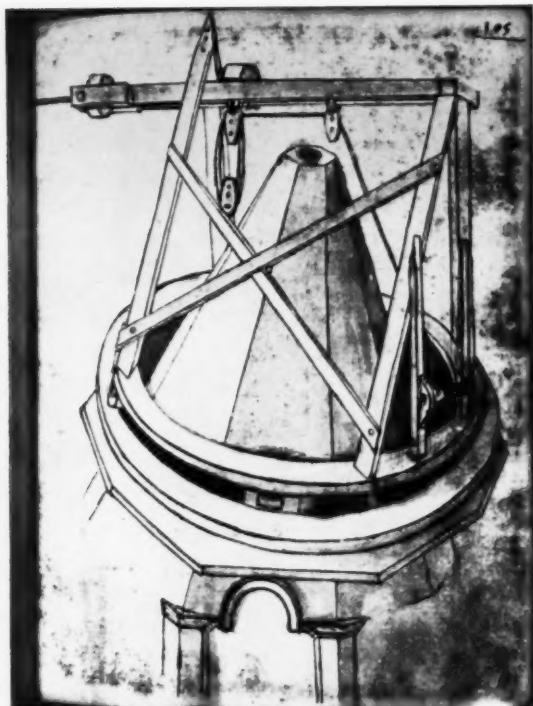


Fig. 5. Florence, Bibl. Nazionale, Ms BR 228, f. 105r.

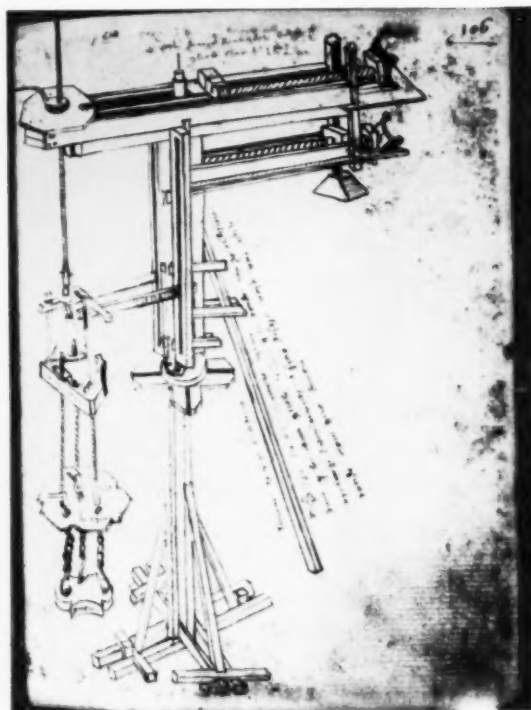


Fig. 6. Florence, Bibl. Nazionale, Ms BR 228, f. 106r.

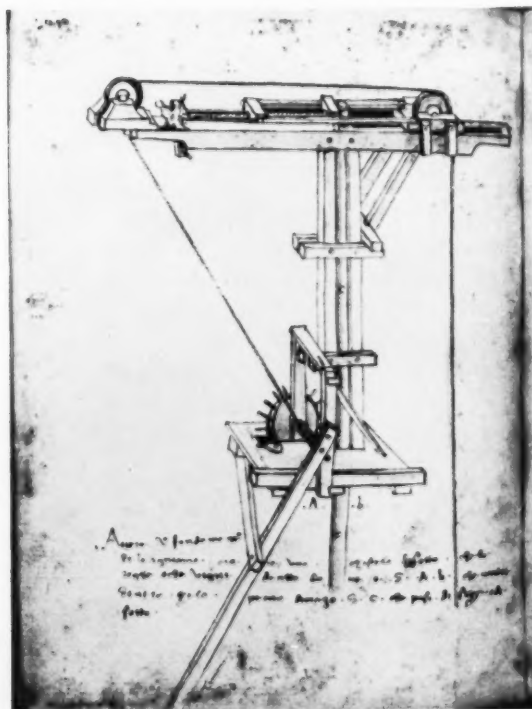


Fig. 7. Florence, Bibl. Nazionale, Ms BR 228, f. 107v.

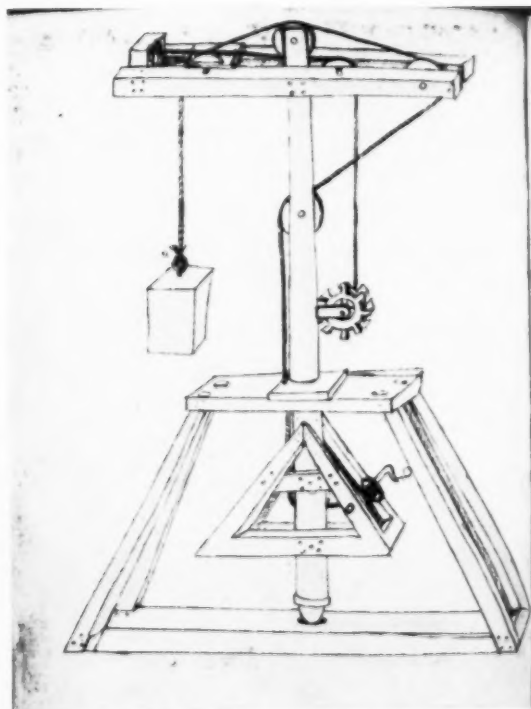


Fig. 8. Florence, Bibl. Nazionale, Ms BR 228, f. 114v.

(Photos: Courtesy Bibl. Nazionale, Florence.)

The text in cryptogram¹⁶ around the crown gear (fig. 2) reads: *Vogiesi questa ruotta in nuno bilicho groso in mezo da A a A che ve dentro in quel bilicho 4 girele, dua di sotto grosse e dua di sopra minorj e ttutte 4 sono nel bilicho di mezo. Posasi detta ruotta in su 4 girele che sono in sul piede cioe di sopra al charucholona che si infuna. A la detta ruotta denti venti cioe 20 denti chomessi fra 2 chierchi chome vedi. El diamittro di detta ruotta e braccio $1^{13}/_{25}$; cho denti braccio $1^{13}/_{26}$, e sanza i denti braccio $1^7/_{16}$. Altti i denti $1^1/_{6}$ di braccio. La ruotta de palei atta el diamittro braccio $1^5/_{8}$. Quel lengnio che di sopra a le girele che pare 2 lestoli apichatte insieme serve che questa ruotta no puo ucire del bilicho, ma e confitta in su el bilicho overo inchiavatta perche la ruotta no fugha in su.*

The note gives the measurements of the gear, mentions its position on the machine and describes certain parts not seen in the sketch. The gear consists of 20 teeth having a height of little more than 3 inches, set between upper and lower circular frames whose diameter is ca. 30 inches. Ropes turn in the central axle-bearing (*bilicho*) which contains 4 wheels (rollers?)—two large ones above two smaller ones. The crown-gear is placed on 4 rollers which are on the post above the drum around which the rope is wound. A clamp across the central bore serves to keep the 4 wheels in place, locking them in the bore and preventing them from moving upward. The mention of a wheel furnished with *palei* refers to the hoist as shown on f. 95r.

The hoist with the crown-gear of f. 98r. shown in position (fig. 1) includes a spur-gear furnished with a ratchet wheel, the whole raised on a wood framework. Various parts of the sketch are furnished with letters of the alphabet which are quoted in the text. On the crown-gear are long handlebars identified, *manovale overo istanghe, una di qua e lattra di la dala ruotta*. (The four rectangular "rings" for the handlebars are not mentioned in the notes on f. 98v., but it is important to note their place to the right and left of the axle-bearing. Their position leaves the axle-bearing free and open to move the ropes vertically.) On the ground within the framework is an enlarged detail of one of the spools of the spur-gear in the shape of a toy top (*palei*). These spools were held in place by, and could spin on, metal clamps. To the right of the hoist is a trough-shaped box which fitted against the rope-winding drum (*per choprire la charuchola che si infuna s[egnata] M.*). The four letters, d, e, f, g at each corner are repeated on the upright posts of the frame.

The text in cryptogram refers to the operation of the hoist, to the relationship of the parts to one another, and to their function. *Luna di queste funi avogie e lattra isvogie nela ruotta che a e dentti. Ve nel mezo dua girele dove chorono queste, e uni di sotto e di sopra ne dua alttre minori dove vano medesimamente le funi. Siche nela ruotta s[egnata] A ve 4 ruotte, dua di sopra e dua di sotto dove chorono le funi. La ruotta s[egnata] C fatta perche di la vi sta uno fattorino che no lacia ischorere, cioe una ruottola. Posasi la ruotta s[egnata] A in su 4 girele che fano che piu agievolmente si vogie. A la detta ruotta denti 20 cioe ventti. Palei dela ruotta s[egnata] B, $1^1/_{6}$ luno: vel circha numero 20 cioe ventti palei in tuto. Dove s[egnata] L di qua e di la sopra dove vi sta e bilichi A a esere 2 girele di sopra, perche quando e bilicho ttira in su e quello girele voghono e girano la ruotta de palei. El suo diamittro braccio $1^5/_{8}$ di tutta la charuchola grande: chosi funa un ditto meno duno braccio.*

¹⁶ The code used by Buonaccorso is a very simple one. He substituted the letter required in a word with the one preceding it in the alphabet, that is, b's are a's, p's are o's, etc.

Measurements and minor working parts mentioned in this note repeat those for the crown-gear, but two comments are worth noting for the information they give on the operation of the mechanism. In the statement that one end of the rope turns forward and the other in reverse is found confirmation that the central axle-bearing of the crown-gear is immobile; therefore, the wheel moves around it when animals turn the handlebars. Indeed, the note around the crown-gear explains a part of the operation that is not clarified in the drawing of the hoist: the axle-bearing containing the two pair of superimposed wheels is locked in place. It could not be otherwise, for if the whole crown-gear were to revolve, the rope in the central bearing would be twisted when the spur-gear is engaged. Without the notation, we would be unable to explain how the hoist actually functioned.

The design of the hoist permits us to draw certain conclusions about the arrangement of supplementary parts which are not shown in the sketch. One end of the rope furnished with a weight would have to be suspended from a pulley attached at some height on the scaffold above the working level; the other end carrying the load would also run through a pulley on high, and down to a crane which could draw the load to its place on the wall in construction. An important feature of the invention is that only a part of the rope length was wound around the drum. This aspect of the design may be associated, as we will show, with the special form of a rope which appears in the Opera's documents.

A second point clarified in the text is that a workman attended to the movement of the ratchet wheel or brake, preventing the load from slipping and crashing to the ground. Ratchet wheels were components of some types of clocks by 1348, and it is significant that masters in clock-making are first known in the humanist center of Padua.¹⁷ Regarding the introduction of ratchet wheels in hoists, historians of technology have thus far looked to Leonardo's drawings for testimony.¹⁸ If we can show that our drawing represents a Brunelleschian invention, subsequent study of the problem by technologists will doubtlessly find it useful to investigate Vasari's account of Brunelleschi's activities in clock-making as well as his comment that Brunelleschi invented the *arpione*, a term which also denotes the check-brake of clocks.¹⁹

The second hoist on f. 103v. (*fig. 3*) has certain parts like the first. Thus, it poses the problem of the superior efficiency of one hoist over the other, and the relationship between the two as concerns which one was conceived first. On a raised framework is installed a ropewinding shaft, one end of which is furnished with a toothed wheel. A second shaft, placed parallel to the first, terminates in a lantern gear which turns on the teeth of the former, while on the opposite end is a large drum likewise furnished with teeth. The latter engage the *palei* of two wheels installed on a vertical shaft at points corresponding to the upper- and lowermost rim of the

¹⁷ See F. M. Feldhaus, *Die Maschine im Leben der Völker*, p. 219f. In fig. 141, Feldhaus reproduces the drawing of the clock of 1348.

¹⁸ F. M. Feldhaus, *Die Technik der Vorzeit*, col. 901. The drawing from Leonardo's *Codex Atlanticus*, f. 8 v.-b. exhibits an antiquated style of drawing and the ratchet wheel resembles the one in the Zibaldone's f. 95 r. Feldhaus also credits Leonardo with the earliest drawing of a lewis (*ibid.*, col. 1080: *Steinklaue*), but the lewises in the magazines of Brunelleschi's cupola disprove that opinion.

¹⁹ Vasari-Milanesi, *op. cit.*, p. 361. For the *arpione* in clocks, see *Enciclopedia italiana*, Rome, 1935, XXV, pp. 389f. and fig. 3.

toothed drum. Beneath the lower wheel are handlebars for activating the wheels on the vertical shaft, while beneath the handlebars is a screw inserted in a block.

Fortunately, there are several drawings of this hoist in the form of patterns of the parts, as well as views of it in perspective, that correct all the discrepancies and puzzling features of the drawing, the major question being how the hoist could be operated on such a low framework. A sketch by Giuliano Sangallo gives the number of *palei* and teeth,²⁰ while a sketch of a similar hoist by Mariano shows that the framework was high enough to accommodate animals at the handlebars.²¹ Furthermore, the notation, *lavorano uno di queste ruote per volta*, accompanying the same type of hoist in a sixteenth-century manuscript,²² clarifies a part of the hoisting procedure that would have to be presumed if the hoist as reproduced by Buonaccorso were to function at all. When the rope moved to the opposite end of the shaft and could not move further, it was drawn back to its original position by shifting to the second wheel on the vertical shaft. In other words, the screw under the handlebars served that part of the operation when either the upper or lower wheel on the vertical shaft had to be engaged.

In the magazines of Brunelleschi's cupola, I counted at least ten cylindrical shafts (ca. 7 ft. long) which definitely belonged to this type of hoist before they were stripped of their mechanical parts and were dismantled; hence, we can be certain that this type of hoist was used in the construction.²³ However, Brunelleschi devised several hoists and cranes for the work. If we are to attribute either one of the Zibaldone hoists to him, it will be necessary to determine the number and types of hoisting apparatus, the years in which they were contrived, their affinities to one another, and their purpose in his building scheme. Central to each of these questions is the fact that only the expense-account of August 20, 1421 (Appendix A) for the prize-winning hoist designed in 1420 provides specific details for the mechanical parts.²⁴

One thing emerges clearly from the record of 1421: *palei*, *mozetti*, and a *ruotta ritta* (upright wheel) are key elements of his invention. Needless to say, the first and last of these are present in both hoists in the Zibaldone; and the interpretation of the word, *mozetti*, is still open to debate. There is, however, a major difficulty in the fact that the verbal description of the parts can be so interpreted as to associate them with both drawings. Thus, if one of the drawings represents the prize-winning invention, it will be necessary to establish a total identity with the document of 1421.

²⁰ R. Falb, *op. cit.*, f. 48. The same patterns of the hoist are reproduced in a codex in the Bibl. Comunale, Siena (Codex S. IV. 6, f. 49r.), with the difference that the *palei* are called *rochetti*. See the same mechanism in Leonardo, *op. cit.*, f. 391v.-b.

²¹ An unpublished manuscript (Palat. 766, f. 36r.) in the Bibl. Nazionale, Florence.

²² Codex S. IV. 6, f. 39v. in the Bibl. Comunale, Siena. Photographs of this unpublished manuscript were made available to me in the *Archive of Drawings by Renaissance Architects* before I consulted the codex itself.

²³ I wish to express my gratitude to Signor Ezio Viciani of the Museo del Opera del Duomo who kindly satisfied my curiosity to see what I might find in the magazines besides the items published by Sanpaulesi. His guided tour made this discovery possible, and I may add that in a later discussion with him, he confirmed a theory which I had evolved for the installation of the lantern hoist illustrated on f. 104r. of the Zibaldone.

²⁴ First published by C. Guasti, *La cupola di Santa Maria del Fiore*, Florence, 1857, Doc. 125.

On the basis of documents alone, Prager made a reconstruction of the prize-winning hoist.²⁵ It was the fact that neither of the drawings in the Zibaldone correspond to Prager's reconstruction, while at the same time both have some relation to his theories, that stimulated my interest in these hoists, and, in turn, led to an examination of the pertinent documents. Prager's interpretation of the documents is not entirely correct, or, shall we say, the Zibaldone drawings offer evidence which invalidates his suggestions as they also question his reconstruction. Briefly, we may note the major flaw in the theory is that the *palei* and the *ruotta ritta* mentioned in the document belonged to the crane (*castello*).²⁶ Both drawings prove that they belong to the hoist proper, on the ground level.

When the documents are read in chronological sequence, as they appear in Appendix B, a clear picture emerges of the relationship of various parts to the hoists, and these to the drivers who operated them. At least two hoists may be distinguished in the terminology adopted by the record-keeper of the Opera: an *bedificium Filippi* or *bedifitium novum sive collam* of 1421; and an *edifitio colle maioris* or *cholla della tribuna maggiore* in use on May 28, 1425.²⁷ The bronze *mozetti* made by Ghiberti and Donatello, which Prager called replacements in 1425 for the hoist of 1421,²⁸ may belong to the second hoist, for the document specifies they were made for the *dificio della tribuna maggiore*.

Turning to the hoist of 1421, a study of the main components enumerated in the expense-account (Appendix A) will serve to determine which one of the two drawings in the Zibaldone may be identified with it.²⁹ The chief elements of the mechanism are the following: 3 *castagni che sostenghino l'edificio*; 1 *olmo per lo stile del chanapo*; 2 *girele di nocie dove si posa lo stile del chanapo*; 4 *churri per guardia del chanapo*; (4) *chasse pe bilichi*; *subbio cholle ruote*; 2 *bilichi per le*

²⁵ F. D. Prager, "Brunelleschi's Inventions and the 'Renewal of Roman Masonry Work,'" *Osiris*, IX, 1950, figs. 12, 13 and pp. 457-554.

²⁶ *Ibid.*, p. 514. Prager was forced to relegate these parts to the crane because he adopted the premise suggested by Sanpaolesi (*op. cit.*, p. 18 f.), that is, that the wormscrew (*vite senza fine*) constituted the controlling element in the hoist. Sanpaolesi viewed the drawings of Antonio Sangallo the Younger which feature the worm-screw as direct descendents of Brunelleschi's machine.

²⁷ There is a possibility that in these first two references we may ultimately be able to distinguish two hoists, but there are no details to decide the matter for the present. My reason for supposing that the *bedificium Filippi* may not be the *bedifitium novum* center on the fact that Brunelleschi's expense-account for the hoist of 1421 actually go back to August, 1420 and end in March, 1421. He still owed money to Piero and Antonio de' Bianchi who "had assembled" the hoist. Thus, it is clear that the hoist was installed by mid-March, the last date when payments were made by him. In "late March" 1421 a driver was paid for his work and use of oxen on the *bedificium Filippi* (Doc. 146). This may or may not refer to the hoist whose parts had been made in the preceding months. For this reason: on June 10th (Doc. 123) the Opera heard Brunelleschi's presentation of a hoist "he had had made;" on July 18th he was given the award for the *bedifitium novum*, the one he had presented a month before. But two days after Brunelleschi's appearance before the Opera's officials (June 16th, Doc. 147), a driver was paid for "one day's work, the use of two horses, and the work of an assistant" on a hoist that is simply called, *edificio da tirare*. Perhaps the officials wanted proof that the hoist for which a prize was forthcoming could also be driven by horses. If it had been in operation with oxen since late March, it is hard to understand why they would want this demonstration. If the driver worked on the *bedifitium novum*, then it is entirely possible that the *bedificium Filippi* is another hoist.

²⁸ F. D. Prager, *op. cit.*, p. 512.

²⁹ Comparison with Appendix A will show that I have excluded those payments which concern the sawing and transportation of parts, the paraphernalia for oxen, the tariffs, etc., but retained those parts which are specified under tariff costs only.

ruote a charucohole; 2 bilichi per la ruotta ritta; 3 chavigli per la ruota; la vite de lo edificio; 91 palei; 16 mozzetti; libbre 1022 per feramenti di piu ragioni; 1 pezo di chatena; fune; 2 ghobi da nave per lo timone de' buoi.

A place for a majority of the parts could be found in both drawings, but the exceptions force us to give priority to the hoist on f. 103r. (fig. 3) as the invention of 1421. It is the only one of the two which has a *vite* or screw, and it includes the part which I believe can be identified with the *mozzetti*: the lantern gear or its individual spools.³⁰ As stated above, lantern gears engaging toothed wheels were in general use in the early fifteenth century, but Brunelleschi replaced the teeth with *palei* spinning on clamps.³¹ I would hazard the guess that the origin of the *palei* may

³⁰ The term, *mozzetto*, was variously interpreted until Prager (*op. cit.*, p. 509 and n. 118) rightly noted that it must denote a piece into which another bites, i.e., a mating part. He reasoned that it was a worm-gear consisting of 16 tooth segments, that it was driven by the worm-screw, and that it was installed on a horizontal shaft. Once it has been shown, as our drawing has done, that the screw is not an activating force in the mechanism, then it follows that the lantern gear—the active device in the hoist—can be identified with the word *mozzetti*.

³¹ References to hoisting apparatus before 1421 (C. Guasti, *Santa Maria del Fiore: La costruzione della chiesa e del campanile*, Florence, 1887) are extremely vague, amounting to no more than the words *cholla* (Docs. for June 26, 1355, p. 82; Feb. 5, 1355, p. 85; June 27, 1398, p. 295) or *la ruota and ruota della ebola* (June 26, 1355, p. 82; Jan. 11, 1356, p. 90; May 12, 1357, p. 90; Oct. 26, 1357, p. 110; Mar. 23, 1357, p. 117; Jan. 13, 1358, p. 124). These terms could designate anything from a simple windlass with ropes and pulleys to a more complex apparatus. But the major difficulty is that we have no way of knowing whether one that is designated as a *dificio da chollare* (Nov. 28, 1358, p. 121) was executed. This apparatus must have been something more than the traditional *colla*. For one thing, the word *dificio* implies that it was built up. Furthermore, the inventor, Ghini, claimed it would cut down expenses, hoist as much material as two *ruote* and eliminate the work of seven men. He calculated it would cost ten or twelve gold florins to manufacture it, and that is just the amount Brunelleschi's hoist cost. Very probably it was not executed because a few months later (Jan. 10, 1358, p. 124), Ristoro Cioni asked permission to modify the two *ruote* so they could hoist twice as much as they then did, and with the same number of men. But one factor emerges clearly from these references: animals were not employed on the hoists.

In a document of Nov. 20, 1357, a hoist consists of 2 *ruote per chollare su pilastri chogli steli*. A *stella* is not a *castello* (although the latter may have developed out of the former), for the reason that a *castellum* is a sort of *edifitium*, meaning it is built up or raised aloft. The description given in the document (*steli di br. 5¹/₂ l'uno e br. 5¹/₂ luna per diametro, grossa 1¹/₄ e largha 1¹/₄, chon 8 razi*) suggests that it consisted of a large wheel with spokes—hence the *stella* or star-shape—inserted into a mast. Drawings in Mariano's codex of 1430 (Palat. 766, Bibl. Naz., Florence) may be used as an index of mechanical devices in use in the early fifteenth century. Among them is the common expedient of hoisting material to the top of a column by means of a block and tackle operated by workmen, but he also includes the star-on-mast type of hoist driven by animals, and still another which is truly a *castello*. In the latter, a number of wood struts support aloft a mast which is surmounted by what amounts to the crow's nest of a ship. Pieces of timber are being raised by means of ropes on a system of pulleys.

Prager called attention to the fact that in the fourteenth century *stella* denoted the equipment of a ship (*op. cit.*, p. 524). Indeed, Brunelleschi himself designed a ship for the transport of marble blocks on the Arno (F. D. Prager, "Brunelleschi's Patent," *Journal of the Patent Office Society*, XXVIII, 1946, pp. 109-135).

Still another form of hoist, one that is illustrated in the Zibaldone on f. 95v. (fig. 16), can be called a *stella*. It is related to ship's equipment and consists of guy-ropes or cables extended laterally from the top of a mast to anchoring points. In the Zibaldone sketch, the hoist is shown raising a large block by means of pulleys and ropes fitted with the iron lewis which, according to Vasari, was first revived by Brunelleschi. A *stella* was still being used in the construction of the cupola (July, 1420, Doc. 171) when Brunelleschi's name is first mentioned in a payment for 2 *charucohole* [pulleys?] *per tirare la stella della chupola* (Sept., 1420, Doc. 122). Interestingly enough, Vitruvius describes this form of hoist at some length. He associates it with ship-building and praises it for its capacity to lift loads of immense weight (Bk. X, ii, 5). That it was not an uncommon device in the fifteenth century is manifest in a drawing illustrating the building of the church of San Francesco in Rimini (C. Ricci, *Il tempio malatestiano*, Milan, 1925, fig. 78). However, its place outside the wall of the church also allows us to conclude that in Brunelleschi's scheme of interior hoisting, it would not have had a function once he had designed his first hoist. Nevertheless, this type of hoist could still find a place in Leonardo's Codex Atlanticus, f. 49v.-a.

be traced to mechanisms used in cloth-weaving. Using Sangallo's count and clear delineation of the mechanical parts as a basis for calculating those which we may presume are present on f. 103r., the 91 *palei* specified in the document may be accounted for thusly: 25 for each of the wheels on the upright shaft; 25 teeth on the large drum, and 16 for the rope-winding shaft.³² These last would engage the 16 *mozetti* (spools of a lantern gear) on the shaft with a drum which was activated by the upright wheel. The *feramenti di piuragioni* certainly went into the manufacture of metal clamps for the *palei* and the 4 iron *bilichi*.³³ The four *chasse pe bilichi* are the two pair of circular frames containing the *palei*, and while the drawing does not render the *bilichi* (the term may refer to metal rings lining the bore), they would have been desirable in making a smooth, tight connection with the shafts. There were two on the upright shaft, and two on the *ruote a charu-chole*, that is, the combination of toothed wheel on the rope-winding shaft and the lantern gear shaft which engaged it. The two *ghobi da nave* are the handlebars to which oxen were attached.

A certain difficulty arises in assigning to this hoist the 8 *bilichi* (Appendix B) furnished not long after it was functioning, precisely on October 4, 1421.³⁴ These were made of bronze, very probably because experience had shown that iron axle-bearings do not resist friction very well. It is an open question whether an extra supply was made for the day when they would need to be replaced, because bronze is more fragile than iron, or whether they were made for additional hoists of this type. In November, 1421 there seems to have been only one hoist (*subio grossiore dicti bedifitii*), but by August, 1422 the documents register a *subio grossiori*, a *subio mediocri*, and a *subio subtiliori*. By November, 1422 three more frames were being prepared to receive the *mozetti* for a hoist which "Brunelleschi was then working on."

If this is the hoist of 1421, what proof is there that the hoist on f. 95r. (*fig. 1*) was used in the construction, and that it is Brunelleschi's later invention, the *edifitio colle maioris*? For one thing, the presence of *palei* in the new design. Once he had incorporated them into his first hoist as a major innovation, and their capacity in practice had been demonstrated as superior to the traditional teeth, he would certainly find them indispensable. But the operation of the hoist of 1421 was time-consuming when movement of the rope required a shift from upper to lower wheel on the upright shaft. The oblique angle of the rope would need to be eliminated once the curvature of the vault began to advance towards the central area. Both problems were resolved in the new design by making the rope operate vertically from the centrally placed axle-bearing. Thus, the vertical direction of the ropes in our drawing is indicative of the position of the hoist in the center of the tribune.

Vertical movement of the rope may be linked to innovations in the design of a crane in 1423 to be discussed presently, but it is conceivable that Brunelleschi envisioned this type of hoist in 1420 when he set forth his method of vaulting and his form of cupola, oculus and lantern. Doubtlessly, apart from the need to speed up construction and raise material to ever increasing

³² R. Falb, *op. cit.*, f. 48. He specifies 24 *palei* on each of the wheels on the vertical shaft; 24 teeth on the large drum; 30 teeth for the wheel on the ropewinding shaft; and 10 spools in the lantern gear.

³³ *Bilichi* are axle-bearings, not counter weights as Prager assumed (*op. cit.*, p. 515).

³⁴ Appendix B should be consulted for all documents which are referred to by date. I have retained the record-keeper's inimitable Latin style when quoting from the documents.

heights, the most pressing problem in his method of vaulting was that of raising large stone blocks and braking them at the desired heights. A ratchet wheel furnished that control. Finally, we may note that a hoist of this type would be required for the installation of marble blocks for the lantern vertically through the oculus, a function which the hoist of 1421 with its ropes running obliquely could hardly perform. Indeed, after 1425, there is no mention of new hoists in the documents. There are payments for the new crane employed in building the lantern, but there is every reason to believe it functioned with the hoist of 1425.

If we now turn from internal evidence for the attribution to the question of documents and the date of invention, it is to seek confirmation for the hypothesis. The documents do not register payment of a second prize for a hoist of such revolutionary design; there is no detailed expense-account, but merely an occasional payment for a part. The possibility arises that reference to a hoist may be concealed in the award of 10 florins for the invention of a crane (*castelleorum pro collis*) on April 15, 1423, or be implicit in the award of 100 florins on August 27, 1423 for his "new model of the wood chains and his method of installing them in the most perfect way." The amount awarded on that date bespeaks of something more than the design of the chains, and it is conceivable that the additional phrase, *pro pluribus artificiiis per eum factis et fiendis*, may allude to a hoist "to be made." The installation of wood chains was a major undertaking in the months from September, 1423 to at least April, 1424,³⁵ but while the vertical sweep of the rope in our drawing argues for its use in the hoisting of long, ponderous timber,³⁶ the absence of documents for that period forces us to conclude it was not completed for that part of the project.

When allowances are made for the time required by the Opera officials to obtain advice from various sources on the continuation of the building, the second stone ring seems to have been installed with relative speed. It was begun on June 6, 1425 and completed by the end of the year 1428, for the inauguration of the third ring was authorized on Jan. 7, 1429.³⁷ Two documents for the working parts of a new type of hoist may be associated with our drawing as evidence that it was the one in use for this and future construction purposes, and that it represents the *edifitio colle maioris*. The latter term is first used by the record-keeper of the Opera in the payment of December, 1424 for forty *dentibus ischi* made of wood, but even more valuable for identifying the new hoist with our drawing is the purchase of a rope paid for in May, 1425. According to the document, Brunelleschi made specific recommendations about its manufacture and size, and probably its length (ca. 616 ft.),³⁸ so it is reasonable to suppose that its destination was equally precise. The hoist as represented on f. 95r. (*fig. 1*) would require a special form of rope,

³⁵ See the chronology of building progress as evolved through the documents in C. von Fabriczy, *op. cit.*, p. 547.

³⁶ For an illustration of the amount of space needed to hoist material when ropes trace a 45° angle, see the hoist similar to ours installed outside the walls of the church in Rimini (C. Ricci, *op. cit.*, fig. 78).

³⁷ C. von Fabriczy, *op. cit.*, p. 548.

³⁸ The document gives only its weight of 1475 *libre*. In calculating the length, I have used the document of December, 1454 which gives the length (370 braccia) of rope newly purchased, and have assumed that Brunelleschi's hoist of 1425 was still in use.

whereas the hoist of 1421 (*fig. 3*) could use rope of any size because there was free space above and below the rope-winding shaft. In the new hoist, the size had to be accurately calculated to the dimensions of the rollers in the axle-bearing. The date of its manufacture coincides with the inauguration of the second stone ring on June 6, 1425.

Although the design of the hoist together with the documents support the conjecture that the drawing represents Brunelleschi's *edifitio colle maioris* of 1425, we can not overlook three documents which need to be explained if they are not to weaken the thesis. The document of May 28, 1425 says the driver had completed a "year's work on the *cholla della tribuna maggiore* on April 13th." While this implies that the new hoist was operating a whole year before the date suggested on the evidence from the newly purchased rope, it is conceivable that the year's work may have included the operation of the *subbio grosso*. The operator was working on the new hoist when the payment was made, but another man had been hired in the meanwhile (May 16, 1425) to hoist material on the *subbio grosso*.

The forty *dentibus ischi* made by a wood-turner in December, 1424 are the "teeth" of a gear, the adjective, *ischi*, designating either the material (a type of oak), the shape in oval form, or the action of engaging another part.³⁹ The crown-gear as illustrated on f. 98v. (*fig. 2*) would seem to call for forty teeth, for a second pair of twenty teeth is rendered on the inner rim. However, if we can trust the accuracy of rendering other details, the presence of only one pin for each of the teeth indicates that there were only twenty, and that they were of such a size as to project beyond both sides of the frame. This could mean that in this case *ischi* denotes an oval shape, and that the wood-turner made forty *palei*.

The date of payment (Oct., 1425 for five bronze *mozetti* cast by Ghiberti for the new hoist need not disturb our supposition that the hoist functioned in May, 1425 because the Opera kept its craftsmen waiting for payments. It must be admitted, however, that if the word, *mozetti*, refers to a lantern gear, as we reasoned earlier, there is no place for one, not to mention five, in the apparatus of 1425. Obviously, the explanation lies in the fact that since it is only the arrangement and form of the meshing parts which were changed by Brunelleschi, the familiar term sufficed for the records. It is improbable that a new word would be coined; even a ratched wheel is simply called a *ruota* in the note on f. 95r. It is more difficult, and admittedly beyond my capabilities, to explain how five *mozetti* weighing 282 *libre* would be applicable to the drawing of the crown-gear (*fig. 2*). Thus, I must take recourse in Prager's theory that Ghiberti cast five "segments" of a gear for which Donatello furnished a model that combined four teeth per segment.⁴⁰ The drawing has the appearance of a working sketch which Brunelleschi would have furnished the bronze caster. Moreover, if any part of the hoist could be cast in the method proposed by Prager, it is this one, not the spur-gear with its *palei* attached to the frame individually. In view of the amount of bronze used, one should also consider the possibility that the frame was made of the same material.

³⁹ For the several meanings of the word, see *Vocabolario degli accademici della Crusca*, Florence, 1899, VIII, p. 1262.

⁴⁰ F. D. Prager, *op. cit.*, p. 512.

In April, 1423 Brunelleschi solved the problem of the lateral transfer of material by inventing a crane (*castelleorum pro collis*),⁴¹ and it seems to have been executed at once. A crane made at this time would function with the hoist of 1421. If the drawing of a crane on f. 106r. (*fig. 6*) can be attributed to him, it was designed with provisions for the hoist of 1425 while being serviceable on the earlier one. Proof that the drawing represents his invention may be had in certain elements of the design, particularly in the devices in, and the function of, the cross-arm framework.

The crane consists basically of a mast built up on a wood frame and surmounted by a case furnished with a screw. A second case similarly furnished appears on the right side of the mast under the first and is provided with a counterweight. A tiller (*timone che gira el dificio*) turns the upper structure, and the additional notes leave no doubt that the whole apparatus was swivelled on a central, probably iron, rod: *Istile di meso dove gira dal tteghliere in su la [cross] in su. Da [cross] in su cioe chomincia a girare dove quella girele in su quello tondo a mezo el dificio; e pel mezo da fondamenti in sino di sopra passa uno stile tondo che vi gira denttro.*

The design of both hoists in the Zibaldone presuppose that the load-carrying rope descended from a pulley placed higher than the wall being constructed, and the descent is apparent in the drawing of the crane where it comes down from the top edge of the folio. The cross-arm and furnishings are Brunelleschian components, for the lantern crane on f. 104r. (*fig. 4*) which we know with certainty was designed by him includes a cross-arm which functions in the same way. In the crane under discussion, a sectional frame slides over a narrower one attached to the mast, its action controlled by the screw. As the load is eased towards the working level, the movement of the counterweight on the lower case in the opposite direction is synchronized with it, for the lower frame moves to the left through the slots in the mast. Evidently, the crane was designed to handle materials of considerable weight, and thus would seem to agree with the function of the hoist on f. 95r.⁴²

The drawings on fols. 107v. and 114v. (*figs. 7, 8*) differ from the first crane while sharing some of its components.⁴³ These two represent combination hoist-cranes to be placed on the wall, for they have their own built-in crank to be turned by hand. Like the first crane, the hoist-cranes have a cross-arm fixed to a mast, a capacity to be swivelled on a central rod, sliding casements for lateral movement, and turning fixtures in the cases. However, both are limited as to the weight they can carry, so unless we assume materials were raised in a series of steps from level to level, they can hardly have served very much after the walls had reached a certain height.

Accompanying the first (*fig. 7*) is the notation: *Avere uno fondamento di lengniamie cioe uno chastelo di sotto che lo reghe e che vigni dentro dove e s[egnato] A B che ventri dentro quello perno*

⁴¹ See note 31 for a definition of the term and the various forms of this top installation before Brunelleschi's invention. A drawing of the same crane appears in Leonardo's *Codex Atlanticus*, f. 349-a. For a mediaeval hoist-crane combination dating ca. 1350 illustrating the building of the Tower of Babel, see F. M. Feldhaus, *Die Technik der Antike und des Mittelalters*, fig. 340.

⁴² See Appendix B for payment of parts furnished after the initial purchase of wood in April, 1423: Docs. 136, 143, 145. The rope purchased on May 6, 1423 was probably not used in this crane. See *infra*, p. 144.

⁴³ Similar apparatuses are illustrated in the *Codex Atlanticus*, fols. 37v.-b, 309r.-b.

di mezzo s[egnato] C che pasi di sopra e di sotto. We are to understand that a supporting frame raised the height of the apparatus, and the descent of the rope downward suggests its place on the wall. A tiller (*timone*) pivots the whole structure around the central rod (*perno*). Rope is wound around a cylinder near the central mast by turning the crank of a toothed wheel. The wheel may be stopped, and the level of the load maintained by applying the brake which is shown on the nearby ledge. The rope runs obliquely from this point to a roller on the left end of the cross-arm, then across to a roller on the opposite end, and subsequently downward. The sliding section and screw in the case are related more or less to that on f. 106r.

The drawing of a hoist-crane on f. 114v. (*fig. 8*) includes the platform from which the mast rises. I am unable to judge whether its design constitutes mechanical improvements over the previous one, but it certainly attempts to solve the problem of sustaining the load at a given point through the reverse movement of a weight. The weight-carrying rope travels over two rollers inserted at each end of the cross-arm; it is then brought back towards the mast where it turns over other rollers, one being relatively close to the bottom where a crank provides the movement. The first roller on which the rope passes is free to slide in the trolley-case, and move towards the mast by means of the pressure exerted on it by the weight. In other words, the load becomes its own source of power through the simultaneous manipulation of the cranks, one of which sets the weight moving while the other releases it.

It is pure speculation to associate either of the hoist-cranes with references to models paid for by the Opera: a *castella collis* by Antonio de Vergelli, for which he received an award of one florin on the same day (April 15, 1423) Brunelleschi received ten; an apparatus by the German engineer, Gherardo, a year later (March, 1424) about which we know only that it was "to hoist like the other one" (*chollare chome l'altro edificio*). Antonio's won a prize, so perhaps it was actually executed, and it may be represented in either one of the drawings. In both cases the various components are remarkably like the one on f. 106r. If they were not designed by Brunelleschi, they clearly adopt his mechanical devices, and, thus, may have been invented by competitors.

On May 6, 1423 payment is registered for a rope weighing merely fifty-two pounds, hardly sufficient for use on Brunelleschi's crane of April, 1423. The weight suggests a relatively short length, and it was intended for the *vericello in sul chastello per tirare a se i pesi*. We can not be certain that the words, *tirare a se*, preclude the use of power furnished by a hoist on the pavement, but if it does, the hoist-crane on f. 114v. could be associated with the document. It does draw weights "toward itself." Carrying our initial speculation further, the hoist-crane on f. 107v. (*fig. 7*) with its similar fittings may be identified with Gherardo's model of the following year which was to hoist material "like the other one." It will be recalled that Brunelleschi's hoist of 1425 was not yet in use.

The last stone ring of the vault was installed in August, 1434, and the cupola blessed on August 31, 1436.⁴⁴ On September 7, 1436 the officials of the Opear authorized the *caput magister* (Battista d'Antonio) to make the model for a hoist or crane (*modellos tirandi pondera*

⁴⁴ C. von Fabriczy, *op. cit.*, p. 549f.

super cupola magna). A new apparatus at this time would only be required for the erection of the lantern, but the document does not specify its purpose. It was not until seven years later (April, 1444) that wood was purchased for making a platform for the lanterncrane (*pancones pro castello pro murando lanternas*), the intervening years having been devoted to the preparation of stone blocks at the quarry. If Battista d'Antonio's crane was intended for the lantern, it was not executed. A document of September, 1444 states explicitly that Brunelleschi designed the crane. On that date a carpenter was paid for four screws *pro castello ediftii Filippi ser Brunelleschi, facto pro murando lanternam*. Thus, while Brunelleschi was supervising the quarrying of material, he was also at work on the design of a crane, and it was ready for the blessing of the lantern's first marble block in mid-March, 1446,⁴⁵ a month before his death.

Brunelleschi's lantern-crane is illustrated on f. 104r. (*fig. 4*), as the note accompanying Sangallo's copy of the same apparatus informs us. It consists of a circular platform having a series of timbers projecting from its perimeter, each of them given a black dot to indicate they were to be bolted down. A wood framework of four posts, arranged to form a square at the bottom but meeting as two triangles to the right and left, support a horizontal case which has a screw inserted vertically in that portion of the case which extends beyond the posts. As mentioned previously, the sliding case of the crane on f. 106r. is incorporated into this one. The turn-buckles rendered separately in the drawing are, as the letter A indicates, hooked into the stationary bolt at the lower end of the screw. The absence of such necessary things as the means of anchoring the apparatus, the props which sustain the cross-arm, the human forces required to turn the block around the screw do not mean the crane is inoperable. The engineer merely drew essentials; all accessory parts were worked out later as the apparatus was being erected.

Other details of the drawing are easily interpreted. Round pegs around the perimeter of the circular platform, and rollers under each of the four posts of the frame, demonstrate that the hoist is first swivelled to the position where stone blocks for pilasters and piers were to go, after which the stone block was lifted. The crane is capable of lateral as well as vertical movement, for the turning of the screw raises the block on turn-buckles and the sliding of the case with its roller and screw fittings eases the load horizontally. In all probability, the drawing of turn-buckles attached to a screw (*fig. 14*) is a detailed sketch (in reverse) of the cross-arm furnishings.

The crane was truly an ingenious invention. When one considers the problem presented by the oculus and by the lantern with its radiating arcade and narrow interstices, it would seem to be the only apparatus which could do the work. Given the design and construction of Brunelleschi's cupola, and the function of the lantern in the statics of the building, it would seem he had conceived such a crane long before it was actually designed.⁴⁶ This is manifest not only in the way the hoist could be used to set the stone blocks for the entire wall and piers of the lantern, but also as concerns the place the hoist was to occupy within the oculus.

⁴⁵ *Ibid.*, p. 552.

⁴⁶ A lantern is mentioned in Brunelleschi's note to the Opera in 1420. Vasari's interpolation (*op. cit.*, p. 348) provides the evidence we can infer from the statics of the structure: *E pero mi risolvo girar di dentro questa volta a spicchi, come stanno le facce, e darle la misura e il sesto che, girato, sempre pigne allo in su: e caricatolo cono la lanterna, l'uno con l'altro la fara durabili.*

It is unnecessary to trouble the reader with a review of the possible solutions to the construction were this drawing not known. It suffices to say that each conjecture other than the one furnished by the drawing involves the safety of the workmen and the difficulties that would arise in the setting of enormous stone blocks from a crane installed on a relatively narrow terrace around the oculus. The timbers protruding from the rim of the platform in our drawing are the major clue to the way the hoist was installed. One might be inclined to think they were placed in the interstices of the lantern where windows would ultimately appear, but with only eight openings this would be impossible. The first timber would span the void to the opposite opening, but since the second, and then a third and fourth must also span it, a piling up in the center could not be avoided.

Brunelleschi's lantern-crane was designed to allow the circular platform to rest in the void of the oculus, the timbers supporting it inserted in the space where the two vaults meet in the last ring. His design of the last ring – accepted by the Opera on Oct. 30, 1432 – included three square openings (ca. 1 *braccio*) in each of the eight sides that amount to windows in the wall of the oculus. To the casual observer their original purpose is obscured, for the oculus was faced with marble and the openings appear in the "frieze" of the entablature. Since his method of vaulting and his model of the last ring were executed, it is clear that the openings served a practical purpose above all: that timber could be drawn into them, then pushed across to the opposite openings, and securely locked within the stone frames.⁴⁷ The timbers were longer than our drawing would suggest, and the circular platform filled only a part of the oculus. Sufficient space had to remain between the rim of the platform and the wall of the oculus to allow stone blocks to be lifted. Thus, the circular platform rested in the very center, supported on three parallel trusses running east and west, and another three placed north and south. While this leaves dangerous, gaping holes in the corners, all but the one through which blocks were hoisted were doubtlessly filled in with flooring. All things considered, the design of the lantern-crane and its installation lend further support to the theory that Brunelleschi's hoist of 1425 with its rope moving vertically and its ratchet wheel was fundamental to the operation of all accessory devices. But in the last analysis the invention of the hoist was determined by the method of vaulting and the design and function of the lantern as conceived in 1420.

The scaffold and crane on f. 105r. (*fig. 5*) is placed around a cone whose form is clearly that of the Florentine lantern. It was still in that place on January 19, 1468 when the officials of the Opera discussed the ball to be placed on the apex. They recalled that the "hoist made to erect the lantern" had cost them a great deal of money and trouble; if they delayed any longer in deciding on the finial, they ran the risk of having to spend money for a new one because there was danger that the timber was rotting and it would topple.

Brunelleschi was able to match economy with ingenuity, judging from a comparison of the drawings on fols. 104r. and 105r. (*figs. 4, 5*) for the first crane was designed to meet the needs of various stages in the construction. In its initial form it was tall enough to hoist stone blocks

⁴⁷ Signor Viciani of the Opera was good enough to confirm my theory, and added that the openings are still used today for similar purposes.

up to the height of the niches in the cone. When it was time to roof the cone, the apparatus was partly dismantled; by building an open, circular platform of the dimensions of the wall already constructed, the upper framework could be adapted to its new platform.⁴⁸

In its second form the lantern-crane was fitted with new devices. The sliding case and screw of the first form was retained, but the turn-buckle arrangement was replaced by a block which travelled over the case, and a four-fold tackle was suspended from it. Ropes on the tackle were drawn across to a second pulley, and then down to a windlass on the platform of the scaffold. Once again the design is limited to essentials; such things as props and devices for turning the roller in the case are overlooked. It is hard to believe that rollers under the platform would not endanger its stability and the security of the workmen, but as in the crane on f. 106r. their place in the sketch may have been meaningful to those who were to execute it. The original drawing on which Buonaccorso's depends was made sometime before May, 1471 when the ball and cross were secured into the cavity of the cone that is so prominent in the sketch.⁴⁹

Buonaccorso and his contemporaries would seem to have taken the apparatuses for granted, many of them becoming the stock-in-trade for sketchbooks once they belonged to the historical past. Brunelleschi's biographer, writing at this time, had to rely on the Opera's documents for his one specific mention of an invention: the *castello* of 1423.⁵⁰ Nevertheless, Brunelleschi's contribution to the field of mechanics seems to have had some influence on the young Alberti who dedicated his *Della pittura* to Brunelleschi when the mechanisms were in full operation.⁵¹ Brunelleschi set the pace and led the way both in practice and in theory of mechanics. It is significant that the opening paragraph of Alberti's *De re aedificatoria* (1433-1452) defines the architect as one whose knowledge must extend to questions of hoists and construction equipment if he is to serve man's needs and comforts.⁵² Alberti would seem to have invested the field of mechanics with a new validity by making it a prerequisite, whereas Vitruvius had relegated the problem to the last chapter of his treatise. He continues with sweeping tribute to the mechanical arts, to those persons who investigated such practical things as methods of hoisting, mills, clocks, etc. Henceforth the material included in treatises and sketchbooks prepared by architects in the second half of the century reflected Alberti's initiative in varying degrees until Leonardo pursued the problems with systematic inquiry.

⁴⁸ The drawing should be compared with the Uffizi drawing (Stegmann and Geymüller, *op. cit.*, I, fig. 2 and p. 48) which has been claimed as an early sixteenth-century copy of an earlier drawing. Certainly it illustrates the extent of the scaffolding built up around the lantern which would be necessary and which our drawing excludes. But it is important to note that no provision is made for lateral movement of material. It seems unlikely that blocks of such ponderous weight could be put in place when the apex of the crane is in dead center. For the replacement of working parts and a new rope 370 *braccia* long, see Docs. 276, 304, 310, 311.

⁴⁹ C. von Fabriczy, *op. cit.*, p. 354.

⁵⁰ Antonio Manetti, *op. cit.*, p. 50f.

⁵¹ Concerning the date of the Latin and Italian versions of the treatise (1435-1436), see Leon Battista Alberti, *Della pittura*. Ed. Luigi Malle (*Raccolta di fonti per la storia dell'arte*), Florence, 1950, p. 33 n. 1.

⁵² Leon Battista Alberti, *De re aedificatoria* (*L'architettura di Leonbattista Alberti tradotta in lingua fiorentina da M. Cosimo Bartoli*), Venice, 1565, p. 5f. For the date of the treatise, see Richard Krautheimer, *Lorenzo Ghiberti*, Princeton, 1956, p. 268 n. 28.

APPENDIX A.

(C. Guasti, *La Cupola di Santa Maria del Fiore*, Florence, 1857, Doc. 125: August 20, 1421).

Filippo di ser Brunellescho dè avere per spese fatte nello edificio da tirare, chome partitamente apresso diremo:

- A di 26 d'aghosto, lire 3 a Montino di Bruogio, per trainare 1^o olmo per lo subbio del chanapo.
 A di 30, soldi 20 portò il Testa scharpelatore, per ghabella di 2 ruote.
 A di detto, lire 6 portò Papi di Sandro scharpelatore, per braccia 6 di quercie per fare le chasse de' bilichi.
 A di detto, soldi 16 ebe Ghuido da Norcia pontatore, per rechare le ruote di Verzaia.
 A di detto, soldi 5, denari 6, portò Papi di Sandro, per fare rechare braccia 6 di quercie.
 A di 2 di settenbre, soldi trentatre a Marino di Benedetto leguainolo per manifattura di 4 chasse pe' bilichi.
 A di 11 di settenbre, ebe 1^o portatore, per rechatura di 3 chavigli per la ruota, soldi 4.
 A di 17 di settenbre, lire 2 ebe Manno di Beninchasa legnaiuolo per 2 girelle di nocie, dove si posa lo stile del chanapo.
 A di 24 di settenbre, lire 13, soldi 10 ebe Tano di Bartolo legnaiuolo per 3 chastagni che sostenghino l'edificio.
 A di detto, soldi 6 ebe Fede charetiere, per rechare i deti chastagni.
 A di 19 detto, soldi 8 per ghabella della vite.
 A di 29, soldi 20, per ghabella del subio cholle ruote.
 A di 9 di novembre, soldi 12 ebe Andrea di Franciescho fabro, per 1^o pezo di chatena.
 A di 13 di novembre, lire 11 ebe Nanni di Franciescho legnaiuolo per 1^o olmo per lo stile del chanapo.
 A di detto, soldi 16, denari 6, per ghabella di detto olmo.
 A di detto, soldi 50 per fasciare 2 gioghi di chuoio, e per 1^o soiatto per lo bue, ebe Chante sellaio.
 A di 23 di novembre, lire 3, soldi 16, ebe Piero di Ciuto seghatore e l' compagno, per due opere per seghare legname per lo detto edificio.
 A di detto, lire 3 p. ebe Buono di ser Bencivenni, per parte di cieste da cholla.
 A di 26 di novembre, lire 2, soldi —, denari 8, ebe Iacopo d'Andrea legnaiuolo, per braccia 12 di chorenti di fagio, e braccia 15 1/1 d'asse di faggio.
 A di 20 di diciembre, soldi 35 ebe Lorenzo di Nicholo legnaiuolo, per due ghobi da nave per lo timone de' buoi.
 E a di 9 di giannaio, soldi 5, per fare seghare 1^o olmo.
 A di 7 di febraio, soldi 29, per 4 churri per ghuardia del chanapo, conperati da Lionardo di Giovanni torniaio.
 A di 10 di febraio, soldi 7, per fune, conperò da Matteo schodellaio.
 A di 11 di febraio, soldi 15, ebe Maxo di Chincho, per 1^o gioghetto per lo secondo bue.
 A di 15 di febraio, lire 3, soldi 10, ebe Chanto di Chavalcanto, per 1^o soiatto grande per lo bue.
 A di 10 di marzo, lire 40, soldi 12, ebe per 14 bighoncie da cholla, conperò da Fruosino d'Andrea bottaio, a soldi 58 l'una.
 A di detto, per 2 bilichi per le ruote a charuchole, libbre 70 1/1 a soldi 4 libra, tolse da Mattio fabro; montano lire 14 soldi 2. Abati denari 4 per lira, resta lire 13, soldi 17, denari 8.
 E dè avere fiorini 11, lire 56, per piu legname conperò da Maxo di Chirico fa i charri, appartenente al detto edificio.
 E dè avere lire 5, soldi 2, ebe maestro Antonio Stoppa, per manifattura della vite de lo edificio.
 E dè avere lire 30, soldi 12, ebe Antonio di Tuccio torniaio, per manifattura di 91 palei a soldi 4 l'uno, e per 16 mozetti a soldi 8 l'uno, e per legname lire 6.
 E dè avere lire 151, soldi 1, denari 8, per opere 67 1/3 di maestro Piero de' Bianchi, a soldi 20 l'una; e per opere 67 di maestro Antonio de' Bianchi, a soldi 25 l'una; le quali opere misono a fare lo detto edificio.
 E dè avere per libbre 1022 di feramenti di piu ragioni, tolti da Giovan di Fruosino fabro, per soldi 4, denari 4 libra, e per manifattura di 2 bilichi per la ruota ritta, libbre 78 a soldi 2 libra; monta in tutto lire 229, soldi 4, denari 8.
 Abatesi denari 4 per lira, resta lire 225, soldi 8, denari 4.
 Soma, fiorini 11, lire 584, soldi 12, denari 5.
 Stanzati a di 20 d'aghosto, per mano di ser Dino di Chola notaio de l'Opera.

APPENDIX B.

Dec. 22, 1418 *chola*
 (Doc. 36)

Lionarduzo di Piero, maestro di legname, dè avere per uno modelo e una chola fe per la chupola maggiore a l'Opera, di lengniamie e per feramenti e per opere, fior. 3 a soldi 80 il f. lire 12.

Jul. 9, 1420 (171)	iron chain for a <i>stella</i>	Nanni di Fruoxino, fabro, dè avere libre 132 di una chatena di ferro per la stella della chupola grande; e per libre 280 di piastre di ferro per ferrare le cientine di detta chupola; in tutto 412. (<i>calculation follows</i>).
Aug. 26, 1420 (Doc. 125)	F. B.	<i>See Appendix A. Brunelleschi's payments to artisans for the prize-winning hoist begin at this time.</i>
Sept. 4, 1420 (122)	<i>stella</i>	A di 8 d'aghosto soldi 1 ^o per due charuchole per tirare la stella della chupola. Portò Pipo di ser Brunelescho.
Sept. 4, 1420 (239)	work resumed	A di 7 d'aghosto, lire 3, soldi 9, den. 4, per 1 ^o barile di vino vermiglio, e 1 ^o fiasco di trebiano, e pane e poponi, per una cholezione si fe la mattina che si chomincio a murare la chupola.
late March, 1421 (146)	driver of <i>bedificium Filippi</i>	Deliberaverunt, quod Bartolinus Bartolomei Cagnani, qui cum suis bobus laborat ad hedificium Filippi ser Brunelleschi ad trahendum lapides et alia super cupola maiori, etc.—abbia soldi 31 quando lavora con un bove; e 50 quando lavora con due.
Jun. 10, 1421 (123)	<i>hedifitium novum sive collam</i>	Audito Filippo ser Brunelleschi asserente, hedifitium novum construi fecisse, sive collam, pro trahendo et conducendo super muris cupole maioris lapides, macignos et alia opportuna; et propterea multas expensas fecisse et fieri fecisse; maxime quia dictam causam et hedifitium plus intellexerunt et praticaverunt;
Jun. 16, 1421 (147)	driver of <i>edificio</i>	Benedetto di Piero tiratore dè avere lire quatro per una giornata di 2 chavagli e uno huomo misono nello edificio da tirare.
Jul. 18, 1421 (124)	award to F. B.	A Filippo di ser Brunelescho fiorini cento, e quali gli si danno per lo suo ingiegnio e sua faticha durata, dello edificio per lui nuovamente trovato per tirare; del quale l'Opera ne torna piu utile che di quello che prima s'aveva. (Filippo ser Brunelleschi, civi fiorentino, quos ab ipsa Opera recipere debet pro diebus missis et quocunque eius labore, exercitio, industria, ingenio et ministerio passo, misso et recepto in facienda, et seu fieri ordinari et perfici faciendo, novum hedifitium factum et ordinatum pro dicta Opera, pro trahendo et seu trahi faciendo tam super cupola maiori quam alio loco, lapides lignamina et alia necessaria, florenos centum auri: non intelligendo in presenti stantiamento venire nec comprehendi opera magistrorum vel aliorum qui in dicto hedifitio laboraverunt quandocunque; nec ferramentis vel lignaminibus vel aliis necessariis, ex quibus dictum hedifitium constructum est, factum et ordinatum. Eo tamen apposito et intellecto expresso, quod durante tempore quo ipse Filippus salarium percipiet ab ipsa Opera et officio operariorum, pro eius industria et exercitio mictendis in dicta cupola, teneatur et debeat quotienscunque opportunum et necessarium fuerit ipsum hedifitium providere et reactari et ordinari facere, sunptibus tamen et expensis Opere prelibate; ita quod in et pro predictis nil aliud mictat quam ingenium vel induxtriam.
Aug. 20, 1421 (125)	see Appendix A.	Filippo ser Brunelleschi Lippi, pro infrascriptis expensis factis in hedifitio per eum facto pro trahendo super cupola maiori, a die 26 mensis augusti proxime preteri etc. fl. 11, lib. 584, s. 12, den. 5.
Oct. 4, 1421 (130)	axle-bearings	Bartolomeo di Stefano, chalderaio, de avere per libre 267 di bronzo lavorato in 8 bilichi per le chasse della cholla da tirare. (<i>calculation of the amount due him follows</i>).

Nov. 29, 1421 (148)	driver with oxen or horses on the subio grossiore dicti hedifitii	Piero di Nanni da Marignolle prende a condurre super muris cupole maioris quoscumque lapides, etc., lateres, calcinam, arenam, aquam, ferramenta, lignamina etc.; sive cum bobus sive cum equis, vel aliter operando, trahendo et conducendo, cum hedifitio facto et ordinato per Fillipum ser Brunelleschi, ad presens in dicta Opera esistenti, et cum et super subio grossiore dicti hedifitii, etc.:—per un anno, a cominciare dal 1 dicembre, e con la ricompensa, in tempo d'inverno, di 10 denari et in estate di 6,—per quolibet pondere. (<i>In a note appended to Doc. 150, Guasti states that this driver was released from his work on Nov. 13, 1422.</i>)
Jan. 14, 1421 [1422] (149)	drivers on hedifitio Philippi	Deliberaverunt quod ponatur ad ianuam dicte Opere, et in dicta Opera, quedam scripta continens, quod quicunque vellet conducere ad trahendum super muro cupole maioris dicte Opere laboreria opportuna, cum hedifitio Philippi ser Brunelleschi, pro tempore iniziando post conductam illius qui ad presens cum dicto hedifitio conduit, se scribi faciat et offerat provisorio dicte Opere.
Jun. 16, 1422 (151)	new part for hedifitio Filippi	Stantiaverunt fratri Antonio Bartolini de Fratibus nigris, magistro lignaminis, pro eius labore et magisterio in faciendo rotam seu carrucolam pro trahendo super cupola maiori cum hedifitio Filippi ser Brunelleschi, et lignaminibus et ferramentis missis, etc. lib. 19, 5. (A frate Antonio di Bartolino de' Frati neri di Fra Mafredi, a di 7 di magio, lire 19 e soldi 5, den. 6 per una ruta e girela perdè la charuchola de la chola, fè di novo).
Aug. 4, 1422 (150)	driver now works on 3 hoists	Stantiaverunt Piero Nannis de sancto Donato, tractori super cupola maioris lapides, etc.; pro quolibet pondere super ipsa cupola trahendo cum subio grossiori, den. 6; super subio mediocri, den. 9; super subio subtiliori, den. 16. (Che abi (Piero di) Nani da San Donato che tira sue i pesi i sue la chupola, cioe den. 6 del peso i sue il subio grosso; e piue debe avere den. 9 del peso i sue il subio del dificio è di mezo; e piue i due i subio sotile den. 16 del peso; e questo s'intenda la chondota per tuto marzo prosimo che viene).
Oct. 6, 1422 (152)	metal buckets	Al fabbro pro fulciendo sex bigoncias de catenis et ferramentis opportunis pro trahendo quadrones super cupola etc. in totum lib. 252.
Oct. 21, 1422 (241)		<i>Beginning of work on the brick vaults.</i>
Nov. 5, 1422 (153)	gear frames for F. B.'s new hoist	A di 3 di novebre, per lire 3 per 3 pezi di quercie, per farne tre chase per tenervi detro mozeti per dificio che fa Filipo, ec.
Mar. 16, 1422 [1423] (151)	driver on three hoists	Diliberaro detto di che sia fatto l'aloghagone che à fatto Bartolomeo Cai (Ciai) provedittore e Battista chò Bacellone, de' pesi che tira suso cho' buoi partitamente: in su subio grosso, den. 7; in sul mezano, den. 10; e in sul sotile, den. 14. Per uno ano fatto aloghagone. (Locaverunt Matteo Francisci vocato Baccellone, ad trahendum cum edificio supra murum maioris cupola, cum bobus, calcinam et aquam, etc.; col subbio grande, den. 7 per peso; col mezzano, den. 10 ¹ / ₂ ; col minore, den. 14).
Apr. 15, 1423 (154)	crane	Pro duobus lignis pro fiendo castello super cupola magna, br. 18 pro quolibet, lib. 29, 10.

DRAWINGS OF BRUNELLESCHI'S MECHANICAL INVENTIONS

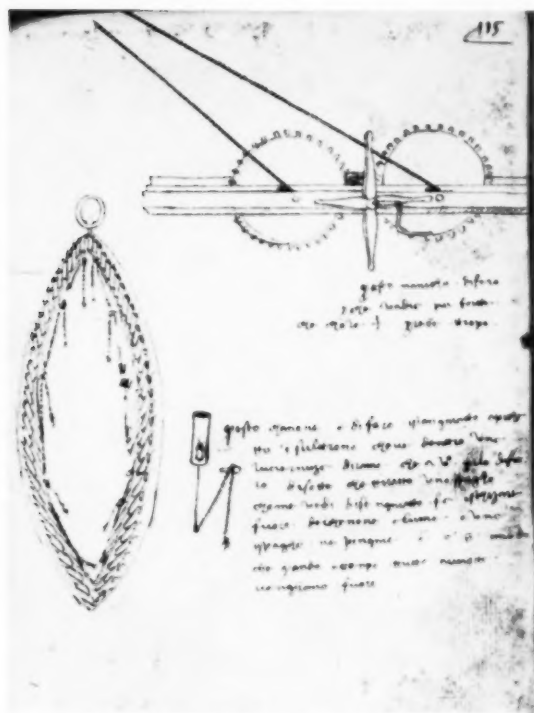


Fig. 9. Florence, Bibl. Nazionale, Ms BR 228, f. 115r.

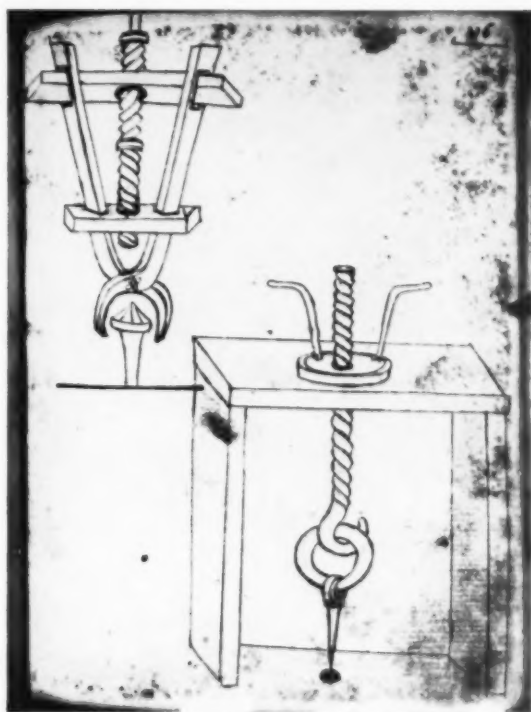


Fig. 10. Florence, Bibl. Nazionale, Ms BR 228, f. 116r.

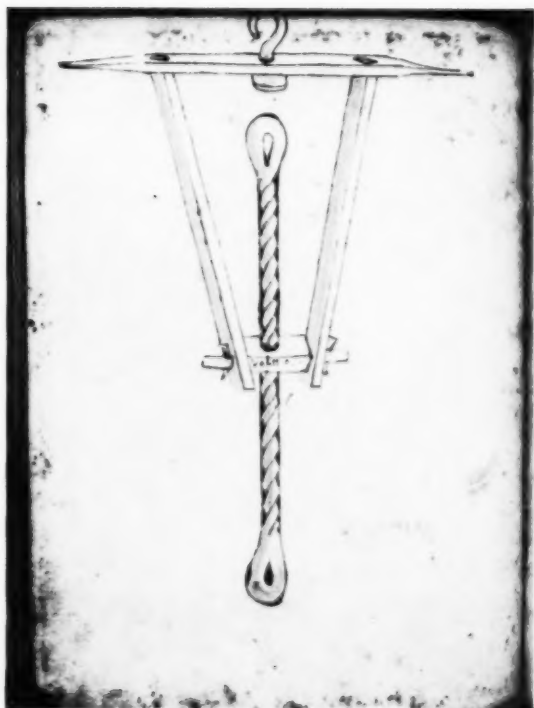


Fig. 11. Florence, Bibl. Nazionale, Ms BR 228, f. 116v.

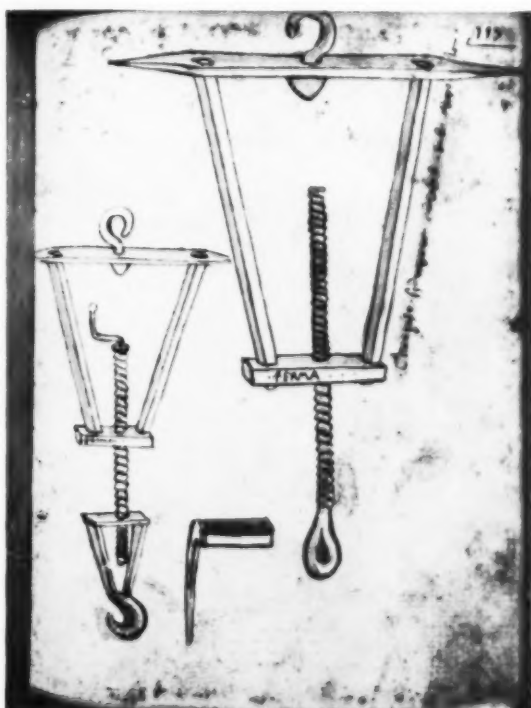


Fig. 12. Florence, Bibl. Nazionale, Ms BR 228, f. 117r.

(Photos: Courtesy Bibl. Nazionale, Florence.)

DRAWINGS OF BRUNELLESCHI'S MECHANICAL INVENTIONS

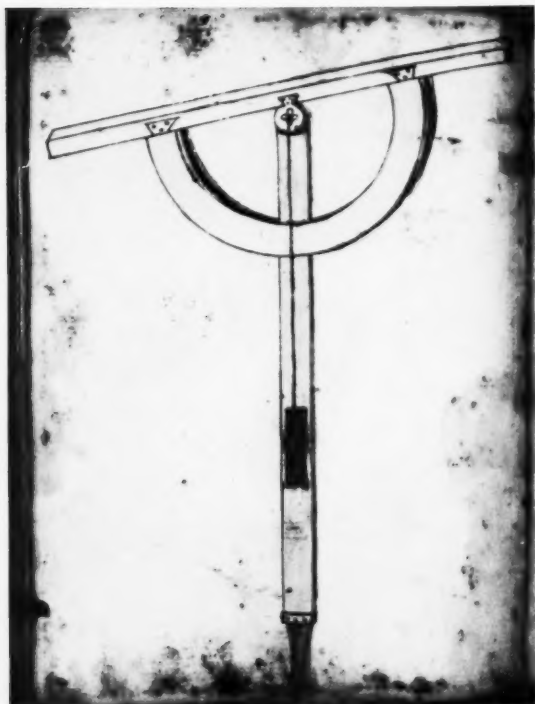


Fig. 13. Florence, Bibl. Nazionale, Ms BR 228, f. 117v.

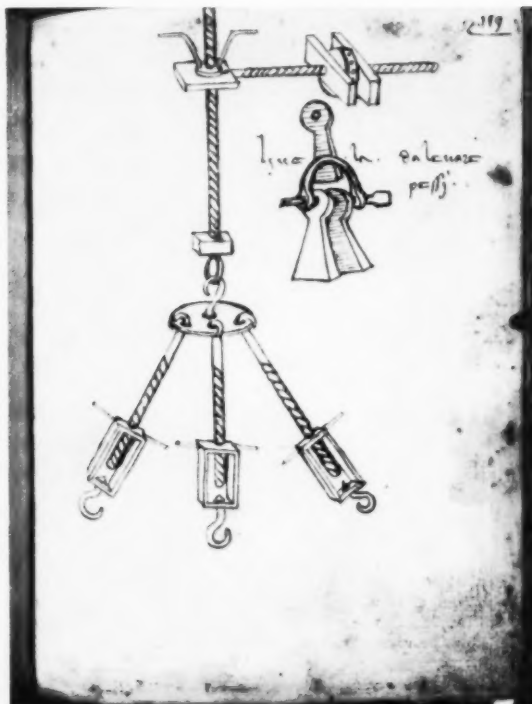


Fig. 14. Florence, Bibl. Nazionale, Ms BR 228, f. 119r.

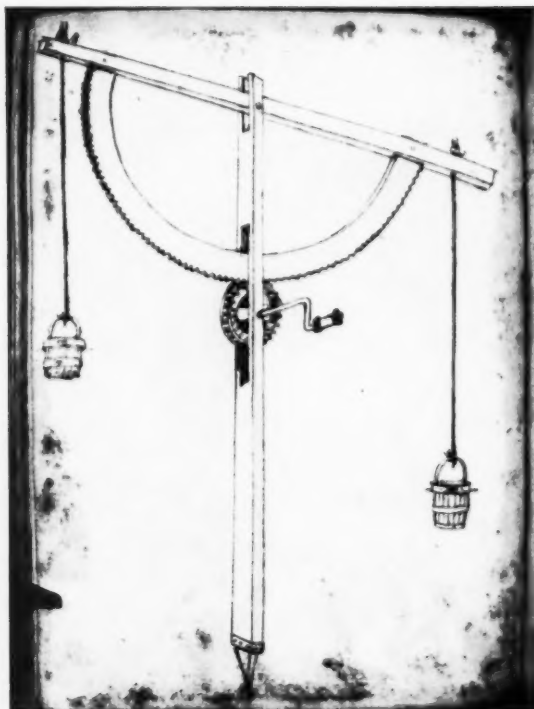


Fig. 15. Florence, Bibl. Nazionale, Ms BR 228, f. 119v.

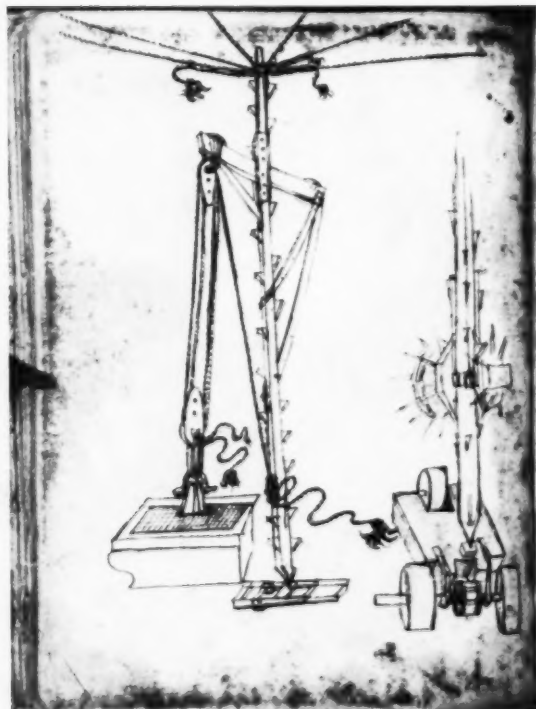


Fig. 16. Florence, Bibl. Nazionale, Ms BR 228, f. 95v.

(Photos: Courtesy Bibl. Nazionale, Florence.)

- Apr. 15, 1423
(126) crane by F. B. Stantiaverunt Filippo ser Brunelleschi, pro eius labore et inventione castelleorum pro collis pro cupola magna, et pro dicto laborerio, in totum, flor. auri decem. (A Filippo di ser Brunelleschi per sua fatica e provedigione d'avere trovato el dificio del chastello da tirare suso e pesi su le mura, flor. 10).
- crane by Antonio de Vergelli Magistro Antonio de Vergelli pro modello per eum facto per castella collis dicte cupola, fl. auri unum. (A mastro Antonio da Vergelli, maestro quivi nell' Opera di lengniam, per sua fatica e provedigione d'avere trovato uno dificio da fare el chastello in sulle mura, flor. 1).
- May 6, 1423
(135) rope for crane E dè dare a di 6 di magio lire 7 a Matteo di Benedetto schodellaio, portò Marcho di Giovani, sono per uno chanapo per porre al vericello in sul chastello per tirare a se e pesi. Peso lib. 32 1/3; per denari 32 libra, lira 7.
- Aug. 27, 1423
(177) award to F. B. *pro pluribus artificiis per eum factis et fiendis.* Stantiaverunt Filippo ser Brunelleschi, inventori et ghubernatori maiori cupule, pro pluribus artificiis per eum factis et fiendis in dicta Opera; et maxime pro novo modello per eum ad presens tradito et dato dicte Opere super chatenam magniam ligaminis dicte cupule, et per ipsam ad perfectionem conducendam; in totum, flor. auri centum, stantiotos per consules Artis Lane et operarios, dicta die. (A Filippo di ser Brunellescho fiorini 100 d'oro in qu., gli si donano per fatica durata per l'Opera in trovare el modello della chatena s'ha mettere su nella magore chupola, e per chondurlla a perfezione, e per piu altri artfici per lui fatti nella detta Opera; coè, che dè fare; chome trovare el modo chome deono stare e lumi alla chupola, e chome dè stare la chatena de' macinghi, e chome dè stare le creste in sulla chupola).
- Aug. 27, 1423
(188) Filippo ser Brunelleschi, florenos auri decem, qui den. eidem mutantur pro emendo certos angulectos querce pro chatena maioris chupole. (A Filippo di ser Brunescho fiorini dieci d'oro in qu., gli si prestano per chonperare cento angholi di quercia che bisongniano per la chatena della maggior chupola).
- Dec. 16, 1423
(136) crane operated from the *dificio de' buoi* Lire 13, soldi 10, a Masetto di Chiricho di Verzaia, che fa e charri: i detti denari sono per lengniam di quercia ci vendè, e fa per l'Opera una ruota la quale sta in sul chastello per tirare suso e pesi dove volge el chanapo chol dificio de' buoi. Portogli e' detto.
- Mar. 6, 1423
(127) [1424] model of a hoist Diliberarono che uno tedesco, chiamato Gherardo, facesse uno modello per volere chollare chome l'altro difico. El deto debe avere le spese per insino in otto di o dieci.
- March
29-31, 1424
(128) model of a hoist Diliberarono che l'oste dell'albergho di Santo Giorgio in borgho Santo Lorenzo avesse, per spese date d'uno modello fatto per maestro Ghabriello tedesco lire 10, soldi 17. Anchora diliberarono che lui avesse, per sua fatica, per insino in lire sedici. (Stantiaverunt Aberardo de Alamania, magistro teotonicho, pro uno modello pro colla fienda in dicta Opera, in totum, lib. 16). Maestro Averardo tedesco, lire 16, che sono per spese e manifatura d'uno modello da chollare, da lui fatto nell'Opera.
- (Apr. 13, 1424) *Nanni di Ghoro begins his year's work on the "dificio della cholla della tribuna maggiori."*

Dec. 20, 1424 (137)	parts for new hoist: <i>edifitio colle maioris</i>	Stantiaverunt Masetto, magistro currorum extra portam Sancti Fridiani, pro quadraginta dentibus ischi, pro edificatio colle maioris; ad rationem solidorum trium, denariorum quattuor, pro quolibet, etc.; in totum, lib. 6, sold. 13, den. 4.
Mar. 27, 1425 (138)	rope for <i>cholla della tribuna maggiore</i>	Canapo pro colla, eo modo et forma, quo per Filippum ser Brunelleschi et Batistam Antonii caputmagistrum dicte Opere designabitur et ostendetur.
May 18, 1425 (139)		Gherardo del Chollera, maestro di chanapi in Pisa, dè avere lire cento sesantadue, soldi cinque p., sono per uno chanapo per lui fatto e venduto all' Opera per la cholla della tribuna maggiore. Pesò libre 1475; a ragione di lire undici el cento, lire 162, soldi 5.
May 16, 1425 (152)	driver on <i>subbio grosso</i>	Conduxerunt cum duobus bobus ad tirandum cum subbio grosso super maiori cupola prefate Opere, Nannem Pieri vocatam il Ruggia, populi Sancti Petri de Sulicciano etc., hinc ad per totum mensem iulii proxime futuri 1425 etc.
May 28, 1425 (153)	driver on <i>cholla della tribuna maggiore</i>	Diliberarono che Nanni di Ghoro, el quale aveva chonpiuto l'anno cho' suo' buoi al dificio della cholla della tribuna maggiore a di 13 d'aprile 1425; e perche di poi avendo servito e mandati su piu pesi, a' quali gli operai fecono che n'avesse el di soldi quarantadue el di per suo salario e faticha chon detti buoi.
Jun. 6, 1425 (242)	stone ring is inaugurated	E a di detto, lira una, soldi dieci, den. quattro p., per uno barile di vino chonperamo pe' maestri e manovali dell'Opera, quando si chominco la chatena de' macigni.
Oct. 12, 1425 (140)	hoist: <i>cholla della tribuna maggiore</i>	Donato di Nicholò di Betto Bardi, intagliatore, dè avere per sua faticha e maestero di uno mozetto fatto per la cholla della tribuna maggiore; peso libre 29 e 11 once del quale ve ne fu libra una e once tre di bronzo misse di suo; (calculation follows).
Oct. 12, 1425 (141)	hoist: <i>dificio della tribuna maggiore</i>	Lorenzo di Bartolucco, orafo, dè avere per suo maestero e faticha di cinque mozetti di bronzo ane fatti pe l'Opera, per lo dificio della tribuna maggiore, pesarono libre 282 e 2 once; del quale v'era libre 120, 1 oncia di bronzo di quello dell'Opera; (calculation follows).
Dec. 24, 1425 (154)	driver on <i>cholla della tribuna maggiore</i>	Deliberarono e fecono salari a Montino di Bruogo charadore perche servì el dificio della cholla della tribuna maggiore; e simile Antonio Fastegli; e che Filipoza possa, senza suo danno o preudico metergli a libro delle gornate.
Dec. 24, 1425 (155)	driver	Deliberarono che il provveditore pattuisca con Nanni di Piero detto il Rugia ec. i pesi da trarsi sulla cupola, con due bovi, non piu di soldi 40 il giorno. (Deliberarono detto di che Bernardo d'Amerigho proveditore dell'Opera possa e deba alloggiare a Nanni di Piero detto Rugia, a tirare e servire al dificio della tribuna maggiore, chon uno paio di buoi, a ragione di soldi quaranta per caschuno di).
Sept. 5, 1426 (156)	F. B's purchase of a horse	Filippo di ser Brunellescho lire sei p., a lui dati per uno ronzino chonperò per lo edificio dell'Opera, e poi lo rivendè, e perdene uno fiorino. . . .

Dec. 9, 1427 (142)	sale of wheel	Deliberano che il capomaestro possa vendere rotam magnum cum uno stile ad tirandum pondera, pro eo pretio quod eidem videbitur fore pro dicta Opera utilius, etc.
Jul. 14, 1428 (111)	loan of rope	Pongono a debito di Filippo di ser Brunellesco un canopo, che avevagli prestato, di libbre 240, a denari 17 la libbra, secondo la stima fattane da Batista capomaestro.
Feb. 14, 1428 (143)	parts for crane	Maso di Chiricho, maestro di chara, dè avere per sua fatica e maestero di due ruote a chanali per lui fatte per le chastella della tribuna maggiore dove vane el chanapo, stimate per Batista e Filippo di ser Brunellescho, in tutto montano lire 28 p.
May 23, 1431 (157)	driver	Refirmaverunt et de novo reconduxerunt Nardum Geri bovarium, ad tirandum super maiori cupola pondera, etc.
Sept. 17, 25 & Oct. 12, 1432	driver Antonio di Manetto Cacheri che lavora in sul dificio de' buoi
Oct. 12, 30 & Nov. 27, 1432 (249)	driver	Stanziano ad Antonio di Manetti Ciacheri lire otto per parte di denari ... in lavorare in sul dificio de' buoi, e'l modello delle pietre della lanterna. fior. 3 per parte del modello dell' ochio della lanterna a fatto.
Oct. 30, 1432 (250)	F. B.'s model of oculus & lantern	Deliberaverunt quod Filippus di ser Brunelleschi, provisor cupole, expensis Opere, faciat seu fieri faciat modellum clausure magna cupola et modellum lanterne dicte Opere, ad hoc ut possit provideri rebus necessariis dicti laborerii. (Che Filipo di ser Brunelescho faci fare el modello della lanterna chome a lui pare).
Oct. 30, 1432 (264)		
Jan. 9, 1433 (145)	parts for crane	Stanziano lire 12 a Antonio di Manetti Ciacheri, per 2 viti a fatte per lo chastello è in sulle mura.
Jul. 30, 1434 (257)	oculus	Deliberaverunt quod Filippus ser Brunelleschi et caputmagister dicte Opere possint, teneantur et debeant locare etc. ad faciendum decemotto lapides de macigno pro clausura cupole magne, mensuris exhibendis per dictum Filippum ser Brunelleschi etc.
Mar. 19, 1435 (265)	lantern	Stanziano a Antonio di Manetto, legnaiuolo, fior. 1 ^o d'oro, sono per parte di pagamento di 1 ^o modello e disegno che fa, a stanza del' Opera, pella lanterna della tribuna ghrande.
Aug. 31, 1436 (260)		Deliberaverunt quod Filippotius, scribanus super giornatis Opere, scribat ad librum operas magistrorum qui fecerunt festum die quo facta et completa et finita fuit clausura cupole magne ecclesie maioris florentine.
Sept. 7, 1436 (129)	lantern crane	Deliberaverunt quod caputmagister Opere notificari faciat ... omnibus et singulis magistris, et aliis volentibus facere modellos tirandi pondera super cupola magna, seu dare modum tirandi dicta pondera, debeant per totum presentem mensem modellos ..., seu dedisse modum tirandi dicta pondera; alias, elapso termino non ... (lines obliterated).

Dec. 31, 1436 (273)	lantern	Quod lanterna magne cupole fiat secundum modellum Filippi ser Brunelleschi, modo infrascripto.
Apr. 28, 1444 (274)	lantern crane	Stantiaverunt Luce domini Masi de Albizis libras duodecim pro duobus alberis pro faciendo pancones pro castello pro murando lanternas.
Jul. 17, 1444 (275)		Stantiaverunt Antonio Manetti pro certis modellis factis, fl. auri 13.
Sept. 25, 1444 (276)	F. B.'s lantern crane	Stantiaverunt Dominico Antonii lignaiuolo et sotiis libras sedecim, sunt pro quatuor vitibus ulmi, factis pro castello edifitii Filippi ser Brunelleschi, facto pro murando lanternam, brach. 10, pro sol. 32 quolibet brachio.
Feb. 23, 1453 [1454] (304)	parts for crane	Stantiaverunt Antonio Manetti lib. 29 sunt pro suo magistero unius vitis ulmi, libras decem cum dimidio; et pro magistero unius lumace pro castello edificii qui murat lapides pro lanterna, et pro factura unius ruote, videlicet pro mictere caviglas archulos ferreos, et arcuendo archum etc., super quo retinetur canapus grossus pro tirando lapides grossas pro lanterna.
Dec. 5, 1454 (310)	rope for lantern hoist	Locatio canapi pro tirando lapides pro lanterna di 379 braccia.
Jun. 20, 1455 (311)	rope	Deliberaverunt quod provisor dicte Opere describat in creditum Johannem de Solera, canaparium de Pisis, pro uno canapo grosso, librarum duorum milium ducentorum triginta etc., pro tirando lapides magnas pro lanterna.
Jan. 19, 1467 [1468] (330)	lantern crane; finial e considerato che le chastella le quali furono fatte per murare detta lanterna e tribuna furono di grande spendio, noia, e difficilissime; e veduto quelle che se s'avessino a rifare chosterebbono grandissima quantita di denari; e veduto intexo che dette chastella non si anno piu adoperare se nonne per la palla e bottone el quale s'anno a porre in su detta lanterna. E considerando che indugiando a fare detta palla, che dette chastella infraciderebbono e arenbosi a fare di nuovo tutti in una voce e choncluxione deliberorono, e confutorono detti operai, che detta palla si facci di getto piu scietta di rame che si puo,
(May 27-30, 1471)		<i>Installation of the ball and cross.</i>

SUMMARIES OF DISSERTATIONS

A STUDY OF ROMAN ARCHITECTURAL DECORATION OF THE SEVENTEENTH CENTURY

by FRANCES HUEMER

The dissertation is a preliminary study for a work on Roman seventeenth century decoration. By adhering to architectural decoration alone it isolates certain basic forms in order to establish a fundamental grammar, based on dated monuments. The principles behind these architectural forms may then be applied to painting and sculpture, but inasmuch as Baroque decoration envelops all three arts, it is first necessary to make a separation.

We have emphasized two architects of the seventeenth century, mainly Borromini, whose architectural decoration is revolutionary, and Pietro da Cortona, whose great and influential decorations reflect his architectural style. In searching for the derivations of motifs in their styles, we have paid considerable attention to the sixteenth century background, particularly to the influence of Michelangelo which affects Borromini in its revolutionary aspects. In apposition, we have considered the academic trend of the late sixteenth century, and stressed the underlying presence of rules in the works of the Baroque architects. In addition, we have seen how Borromini's teacher, Carlo Maderno, absorbed, along with Michelangelesque principles, features of Vignola's style which were to have an important effect on seventeenth century works.

The third chapter, dealing with the seventeenth century, is subdivided into seven parts or categories of forms, here briefly summarized:

I. The Principles of Borromini's Style. Four aspects of Borromini's personal style are discussed: rhythmic continuity, functional determination, individualization of the form, and underlying geometry. An attempt has been made to show how these principles apply to specific works within an early, middle and late development.

II. Borromini: Portal and Window Designs. By investigating the portal and window designs in complete detail we have been able to follow a step by step development from beginning to end, and to see how Borromini changes from a two-dimensional style to one of depth and plasticity, while subjecting his framing forms to an involutioned concentration. Thus, one is able to discern how Borromini absorbs elements of Michelangelo's forms: the upward movement, the tactile swelling of profiles, the stretching of forms, the individual proportions, the layers in depth, and the separation of frame and gable. Then, in the late period he binds all forms by his principle of rhythmic continuity.

III. Cortona: SS. Martina e Luca. We have applied the same principles of design to Cortona's early church, S. Martina, discussing the decorative aspects of interior and exterior. This church parallels Borromini's S. Carlo as an example of documented pure style, as Cortona designed and executed the entire church. Here too, we have tried to indicate the extent of Michelangelo's influence, which is very strong in this early period, keeping in mind the elements of late Tuscan Mannerism in Cortona's style, and the differentiation between the Roman and the Florentine Michelangelesque elements. In the lower church we found an example of Cortona's most personal style, and the details there proved to be significant in revealing various influences.

IV. Dome and Vault Decorations. Here, we have analyzed both Cortona's and Borromini's dome and vault decorations as they contrast with the later more classical designs of Bernini. In S. Ivo we have attempted an explanation of the decoration in regard to its meaning. We have re-attributed the dome decoration of S. Maria della Pace to Cortona.

V. Plant and Floral Elements. An important aspect of Baroque decoration is the free use of growing plant forms within architectonic contexts. One of the most refreshing aspects of the Baroque, is the revitalization of archi-

tectural and decorative forms by this insertion of vital "living" plant forms, which contrast with the classical plant forms such as formalized rosettes or acanthus.

VI. Cartouches. This section deals with the history of the cartouche or coat-of-arms, from Michelangelo's Palazzo Farnese cartouche through the seventeenth century. The sixteenth century has two types: the single plated back shield with forms contained within the oval, and the indented lobed type which continues into the early seventeenth century. After the accumulated forms of the early years of the century, the Baroque cartouche develops bold new types created by the individualistic styles of Baroque architects. It is less fixed spatially: the cartouche is carried by flying figures, it becomes an architectural acroteria, or it is bound rhythmically into the lines of the architecture.

VII. The Capitals. Stress is placed upon the relation of Baroque capitals to the canonic types of the sixteenth century, and the place of the Pantheon "normal" Corinthian capitals within the development.

PROGRAMMATIC PAINTING IN POMPEII:

THE MEANINGFUL COMBINATION OF MYTHOLOGICAL PICTURES IN ROOM DECORATION

by MARY LEE THOMPSON

This dissertation, surveying how mythological subjects were combined on the walls of Pompeian houses, shows that they practically always were related by a narrative or conceptual theme, and thus formed deliberate programs of decoration. Though there is danger of over-interpreting, or reading significance where there may be none, this danger is mitigated by the abundance of pendants which need no obscure explanation. If modern interpretations are at times too refined to apply them to the modest house painter and his bourgeois patron, the fact remains that they were motivated by the desire for intellectual unity, not just external compositional correspondence between paintings.

Upon inquiring what was the basis for pairing two or three myths, one finds that a few major themes were used. The cycles fall into three main groups: those referring to the Trojan War, to Bacchus, and to Aphrodite (with a frequent contrast of her domain to that of Artemis). A small number of cycles concern heroes other than those of the Trojan War, and the Third Style mythological landscapes form a group apart. Fairly frequent are the pendants of theatrical scenes, poets, philosophers and Muses. Finally there is a group with deities presented as "icons" rather than in narrative contexts.

The basis of the combination of paintings is not literary—they are not selected as illustrations of successive episodes of a text. The element in common between the paintings is, in most cases, conceptual, not narrative. The pictures are extracted from different narrative cycles to represent a concept beyond the limits of one narrative: such are the combinations from the cycles of Dionysus and Aphrodite. The friezes illustrating the Trojan cycle are an exception, since the usual program based on the life of Achilles is not a narration of his deeds, but a selection of isolated elements dramatically juxtaposed. Neither are the combined pictures intended to be simply selections from various dramas. Even where the myths used are favorite theatrical subjects, the combinations are self-sufficient and have a unity beyond a common derivation from the dramatic arts.

While the study of the practice of programmatic decoration in Pompeii constitutes the body of this dissertation, it seemed desirable to inquire into the relation of this evidence to Greek and later Roman use of combined figured scenes. One would not expect to find precedents in the domestic decoration of the Hellenistic period, for the decorative necessity which gave rise to the combination of paintings in one room came about only with the development of the Third and Fourth Styles of decoration. The First Style gave no place to inserted pictures, and the Second Style did so only in its last phase. There is, however, considerable literary evidence for the combination of pictures in public and religious buildings in an earlier period of Greek art, the fifth and fourth centuries B.C. These programs, being political and religious, were entirely different in character and function from the domestic decoration in Pompeii.

Of the literary evidence for programmatic decoration in the Roman period, the *Imagines* of Philostratus indicate a much greater complexity and religious profundity in programs used in the century and a half following the destruction of Pompeii. The types of programs, however, are firmly rooted in the traditions seen in Pompeii. Though there are no painted cycles of domestic decoration known in this later period, a study of mosaic floors (not undertaken in this dissertation) would probably prove the continuation of programmatic decoration and provide the background for the developed programs found in the cult buildings of the mystery religions: the Mithraea and the Christian churches.

THE CHURCH OF SANTA TRINITÀ IN FLORENCE

by HOWARD SAALMAN

The fragmentary tri-conch structure (Trinità I) at river level under the present church appears to be the first building on the site. Its function is unclear; a ninth century date may be suggested, especially after our demonstration that the vaulted oval structure under San Pier Scheraggio is only partly pre-eleventh century while contemporary with the church above in its present form.

Sometime in the eleventh century a basilical nave was added to Trinità I at a higher level and connected with the first building by a wide set of stairs. The interior façade and other parts of this complex (Trinità IIa) are visible in the present building.

Probably after the entrance of the Vallombrosians in 1092, Trinità IIa was converted by the insertion of a hall crypt and the creation of a choir above the crypt vaults into Trinità I. Our excavations have revealed that this choir was connected to the Trinità II nave by a set of semi-circular steps while the spandrels between Trinità I and the Trinità II side-aisle end walls were filled in and closed off towards the outside by a retaining wall. The converted complex is called Trinità IIb.

This complex was demolished to the present street level and its façade was absorbed into a new church built sometime in the late twelfth–early thirteenth century, probably after the monastery was enclosed in the second circle of the city walls about 1185 and became a parish church.

Although its existence was indicated by a combination of factors, Trinità III has been wholly overlooked by previous investigators who have generally assumed that the present church was begun about 1250. The tradition on which this assumption rests, however, does not go back beyond Vasari. His dating coupled with his attribution to Nicola Pisano which has had such a persistent life, may be based on nothing more than a plaque with the date 1257 or 1258 which was removed with the rest of the earlier façade after 1592.

The physical facts of the situation and the results of our excavation put the existence of Trinità III beyond doubt. The character of remaining fragments and a combination of historical facts point to a period between roughly 1180 and 1230 as the dates of this intermediate building. While its side walls establish the plan of its nave as identical with that of the present church, less certainty was obtained about its western (choir) end. The existence of a straight north-south wall just in front of the present transept chapels suggests that it had a rectangular plan comparable to the later Badia and San Remigio. Remains of its campanile may exist under the present northern transept arm. The façade of Trinità III can be reconstructed from the façade visible in Ghirlandaio's fresco in the Sassetti Chapel.

It may now be affirmed that the present church (Trinità IV) is wholly a product of the fourteenth century, based on and utilizing parts of the preceding buildings.

Three main building phases may be distinguished: 1) ca. 1340–60 (?); 2) 1362–ca. 1370; 3) 1383–ca. 1405.

While the documents are silent, a reconsideration of Trinità IV and of the Florentine architectural scene at mid-fourteenth century leads to the conclusion that the new project was evolved by the circle of masters emanating from the workshop of Santa Maria Novella and centering around the master chiefly responsible for the new Santa Maria del Fiore project of 1366–67, Neri di Fioravante.

SAN CARLO ALLE QUATTRO FONTANE

A Study in Multiple Form and Architectural Symbolism

by LEO STEINBERG

A brief preface enumerates the documents, sources and essential literature bearing on the church of S. Carlo in Rome. It also itemizes the alterations undergone by the building since the death of the architect, Borromini, in 1667.

This is followed by an introduction in which the problem is posed: that the mere plan of the church has been interpreted by previous students in no less than twelve different ways. These twelve approaches to defining the "primary form" of the church are presented and discussed in Chapter I, at the conclusion of which it is suggested that S. Carlo's plan can only be understood as a contrapuntal design, in which three forms—an octagon, a cross and an oval—coexist in perfect simultaneity.

Chapter II discusses the evidence of Borromini's own drawings. Three drawings published in 1924 as early phases of the design are shown to be neither by Borromini, nor for this church. An alternative series of drawings from the Albertina in Vienna, mostly unpublished, are presented, and their analysis proves compatible with the triform hypothesis.

Chapter III—The Formal Hypothesis—discusses in turn each of the three forms which coexist in the design. The church plan is shown to be a restatement of the theme of the octagonal Cloister, enriched by four chapels. It is also shown that the diagonal wall sections are treated as the piers of an octagonal crossing. This, and additional evidence, put it beyond doubt that the octagon is materially present in S. Carlo and indispensable to its interpretation. The argument proceeds to show that the cross is equally present; though it is merely adumbrated in plan, it is clearly emphasized by the illusionistic devices which, in elevation, create the impression of four extended cross arms. Finally, it is shown that the elusive curvature of the chapel plans can be understood only on the assumption of a perimetric oval which intermittently circumscribes that of the dome. Thus all three forms appear to be materially present in the design of the church, and each of them proves essential to its full interpretation.

Chapter IV shows that the columnar articulation of the interior is designed in three distinct but overlapping cross rhythms. It is found that each of them corresponds to one modality of the whole structure; each of the three forms constituent of the church, has, as it were, its own system of columnar supports. As the columnar articulation confirms the triform hypothesis, so does the wall treatment. The two-way tension felt in the diagonals results from the necessity to suggest at once the octagon and the oval, just as the illusionism employed in the axes is used to satisfy the dual demand to express simultaneously the oval and cross.

Chapter V treats of the dome. Its complex coffering pattern is shown to be an ideal restatement of the forms of the plan. Finally, the same three forms are found in clear, simple progression within the lantern. The same three forms which conjoin in the lowermost zone in appalling complexity, and which the dome pattern repeats in tightening juxtaposition, reappear in the lantern in resolution to form a stately emanation from the heart and summit of the total design. The conclusion of the chapter produces evidence that the combination of cross, oval and octagon was consciously entertained in the architect's mind: the conjunction of the three forms turns up in numerous variations—in the garden layout, the plan of a fountain, a crypt chapel, in tracery windows and emblematic ornaments. It becomes clear that the cross-oval-octagon theme was relentlessly present in Borromini's mind during his work on S. Carlo.

In Chapter VI—the "Iconographic Hypothesis"—the question is raised whether this feat of contrapuntal design was pursued solely as an aesthetic adventure, or whether the artist was led to his attempt, and sustained in it, by symbolic considerations. It is proposed that the church—one substance manifesting itself under three forms—is conceived as a vast emblem of the Trinity.

The suggestion receives a preliminary plausibility from the fact that the church was built for the Spanish Order of the Trinitarians. More significant is the long-forgotten fact that its primary dedication was to the *S.S. Trinità*. This is attested by inscriptions, by the documents, and by numerous emblems within and without the church, many of them—such as the triangle in the lantern—designed by Borromini himself. Further analysis of the building shows that its articulation is triadic throughout, even to a projected triangular campanile. It seems inconceivable that an architect who allowed the ternary number to control so much of his architectural thought—and this in a church built for Trinitarians, dedicated to the Trinity and crowned by the Trinity's emblem—should have remained unaware of the symbolic potential of his own scheme.

The chapter proceeds to discuss architectural precedents for Trinity symbolism, the general period tendency towards symbolization, and the place of the Trinity dogma itself in contemporaneous theology; the purpose being to demonstrate that the "iconographic hypothesis" here proposed is thoroughly compatible with the mood of the time.

Chapter VII—"The Artist"—attempts to show that the hypothesis is equally compatible with Borromini's personal style, which reveals itself as pervaded by forms of multiple function and latent symbolic intent. Among the architect's works briefly studied is S. Ivo, for which a new interpretation as the House built by Holy Wisdom is proposed. The chapter closes with a critique of previous attempts to expound the architect's personal psychology.

Chapter VIII—"Last Speculations"—raises the question whether, in addition to the three-in-one symbolism, each of the three forms composing the church may not have its peculiar symbolic function. Thus it is shown that the internal octagon at S. Carlo is a similitude of the crossing area of St. Peter's. It is suggested, though not proven, that S. Carlo, insofar as it reproduces the basilica, symbolizes the Church as the See of St. Peter. This leaves the cross and the oval; and they are shown—with probability rather than certainty—to symbolize the World pervaded by the rule of Christ.

In a final hypothesis these same forms of oval and cross are further interpreted as the Body of Christ, adapting the Eucharistic emblem to the plan of the church.

What is implied in the entire argument of the dissertation is that Borromini, being asked to build his first church, had asked himself—what is a church; what does it stand for? His answer—if these hypotheses are at all credible—is that the church building is a microcosm of the Church Universal; therefore it stands for the See of St. Peter and the mystic Body of Christ, for the world's circuit suffused by the cross, and—in the singleness of its substance and its manifold forms—for the nature of God.

STUDIES IN THE "ZIBALDONE" OF BUONACCORSO Ghiberti

by GUSTINA SCAGLIA

The sketch- and notebook bearing the autograph of Lorenzo Ghiberti's grandson, Buonaccorso, contains translated excerpts from Vitruvius and a great variety of unpublished drawings: hypothetical reconstructions of Roman architecture, entablatures and capitals from Roman buildings, Quattrocento tombs and church façades, fortifications, mechanical apparatus for construction purposes, artillery, and illustrations from Valturius' *De re militari*. This study of the codex traces the sources of the text and drawings, the greater part of which are copies, in order to determine Buonaccorso's role in the compilation, to verify his claim of authorship, and to examine the possibility that the codex may be associated with Lorenzo's plan to write a treatise on architecture.

In studying the calligraphy throughout the codex, Buonaccorso's authorship is established beyond any doubt, but in tracing the origin of the contents it becomes clear that he drew from a collection of sketches and notes acquired or made by Lorenzo and augmented probably by Vittorio Ghiberti. By collating the translated extracts with extant Vitruvian manuscripts and Renaissance treatises, the evidence indicates that the original translator—possibly Lorenzo or at least someone closely associated with him—worked from an illustrated Vitruvius related to the tenth-century manuscript in Sélestat. Among the earliest drawings are the mechanisms and instruments used or invented by Brunelleschi for the construction of the cupola, together with his device for festival decorations. Other drawings of mechanics are derived from the Sienese engineer, Jacopo Mariano, and it is suggested that he may have illustrated the Valturius manuscript on which the incunabula were based. Several groundplans of fortifications may date in the first half of the fifteenth century; others compare with illustrations in Filarete's treatise. The chapter devoted to artillery drawings attempts to correct the thesis held by nineteenth-century military historians, showing that some derive from pattern-books prepared by German engineers ca. 1450, while others are essentially Italian innovations in general use by the third quarter of the century.

The hypothetical reconstructions of Roman architecture are studied in conjunction with drawings attributed to Cronaca and with copies made by Italian and French artists. The possibility of assigning a date at the mid-century to the original series emerges through an analysis of their architectural vocabulary, and from evidence in humanist literature and maps of Rome. One of a series of entablatures from Roman monuments may be dated 1439-1455 through an inscription. Likewise dating before 1450 are Alberti's devices for pointing sculpture, measuring perpendicular planes and areas of land.

Quattrocento theories of proportion are manifest in the façades for basilicas, while motifs from the church of San Francesco in Rimini suggest they belong to the same decade. A major feature of two drawings is the choice of architectural membering for the traditional subdivision, making them distinct from those façades executed in Rome and Venice. A third drawing may be identified with the façade, now lost, of the church of St. Vincent Ferrer erected in Florence in 1475. The majority of tomb drawings, variants of monuments designed by Donatello and the Rossellino workshop, were created no earlier than 1460. Several are interesting for the way they exhibit a revival of late mediaeval concepts.

In conclusion, the suggestion is made that the scope of the material in the codex is not dissimilar from Francesco di Giorgio's concept of a treatise. However, in its present form it is difficult to distinguish Lorenzo's aims for the material he collected from the additions to the nucleus, the selection and order imposed on it by Buonaccorso.

THE FIFTH PAZYRYK KURGAN AND THE "ANIMAL STYLE"

by JOHN F. HASKINS

In 1715, Peter the Great of Russia received a gift of gold art objects, reputed to have come from Siberia. This material, together with other related objects was believed to be related to the art of the so called Scythians from the northern shores of the Black Sea. Now in the "Gold Treasure" Galleries of the Hermitage Museum, Leningrad, the Scytho-Siberian art has come to be known as "animal style art".

Since the mid-nineteenth century, Russian excavators have been investigating tombs with stone kurgans (tumuli) in Southern Siberia. Numbers of these burials had become filled with water, owing to their having been robbed shortly after the funeral ceremonies had taken place. The water froze and the stone covering reflected the rays of the sun, so that the frozen tombs became a deep freeze of ancient art until they were opened by archaeologists in the nineteenth and twentieth centuries. All of the tombs had been plundered, but enough remained to give an excellent picture of the art, artifacts, and culture of the peoples buried there.

Soviet explorers discovered a number of stone kurgans in the high Altai in 1924. In the company of Michael Griaznov, Sergei Rudenko went to the Altai in 1929. They chose a site along the valleys of the Ursul' River and its tributaries, South of Lake Teletskoe, near the trading hamlet of Pazyryk. The village of Pazyryk, which was to give the site its name, is on the Southern slope of the Chulishman range in the Eastern Altai: 50 44' N., and 88 03' E. The nearest large town is Ulagan. Rudenko and Griaznov opened the largest kurgan at Pazyryk, calling it K-1, in 1929. In 1947, Rudenko returned to the site, and from then until 1949, he opened seven more tombs: K-2-K-8. His discoveries were recorded in one volume in 1953, the title of which has given rise to some controversy: S. I. Rudenko, *The Culture of the Populations of the Altai Mountains in the Scythian Period*, The Soviet Academy of Science, Moscow & Leningrad, 1953 (in Russian).

Using original sources, an attempt has been made here to fit the Pazyryk kurgans into their proper place—historically and stylistically. For this purpose, a survey has been made of:—the archaeological background, leading to the discoveries of the "valley of the frozen tombs" at Pazyryk; the historical sources (mainly Classical and Chinese); the ethnological morphology of the Eurasian Steppe, to which Pazyryk belongs; and a chronological outline of the history of the Altai, as seen from archaeological excavations.

The treasures from the fifth kurgan (K-5), which include a wealth of Chinese and Western Asiatic material, are discussed in some detail. An analysis of the motives in the art of Pazyryk has been prepared, together with suggestions as to the possible sources for them. A date of ca. 350 B.C. is proposed for K-5 (it should be mentioned that this is substantiated by carbon 14 analysis—made after this paper was written), on the basis of Chinese material found in the tomb. Finally, eight separate appendices are attached which list, describe and discuss all of the objects discovered in the eight Pazyryk tombs.

It is proposed that the frozen tombs of the Pazyryk valley may have been the "Valhalla" or burial ground of the tribal Massagetae (Μασσαγῆται), mentioned in Herodotus, *History*, I, 201-216. It is further suggested that the Massagetae may have been the *Ta Yüeh-chih* 大月氏, of the Chinese histories, and hence proto-Tocharian. This solution is proposed as a working hypothesis, but one which would seem to fit all the known facts. At any rate, the Altaian tombs cannot well be placed in the "Scythian" world of art, and the material from Pazyryk would more properly be related to the enigmatic "Siberian Gold of Peter I", hence Sarmatian, or proto-Sarmatian, in style at least.

THE ART AND ARCHITECTURE OF MAXIMILIAN GODEFROY

by ROBERT L. ALEXANDER

The purpose of this thesis is to study the art and architecture of Maximilian Godefroy (1755-ca. 1840), a French refugee architect who spent fourteen years in the United States, primarily in Baltimore. During his stay (1805 to 1819), the last stages of the Federal period, he was connected with most of the advanced, monumental building undertaken in that city, which was then at a peak of prosperity and importance. His significance lies in his contribution to the rising sense of professionalism in architecture and in the dissemination of French Romantic-Classical doctrine.

Although he learned architecture and building in this country, Godefroy educated himself largely through European sources. Important among these was J.-F. Blondel's *Cours d'architecture* (published 1770-1776), which supplied Godefroy with much of his theory. From personal observation and from other works, like J.-N.-L. Durand's *Précis des leçons d'architecture* (published 1802-1805), he acquired the compositional methods and forms recently developed in France. Close personal relations with Benjamin Henry Latrobe reinforced Godefroy's efforts to design in a modern European manner.

Quantities of manuscript material, located in American, English, and French archives, throw much light on Godefroy's life, theories, and architecture. His work included a variety of building types: St. Mary's Chapel (1806-1808), the Battle Monument (1815-1825), and the Unitarian Church (1817-1818), to which are added less known structures, the Commercial and Farmers Bank (1812-1813), the Masonic Hall (1812), the Courthouse (1816-1817) in Richmond, Va., other banks, and mortuary, military, and domestic works. Usually with some simplification he adopted favored motifs of the age, like the light, open entrance void in the solid, rectilinear, essentially horizontal block. Employing compositional principles prominent in Europe, Godefroy endowed his works with much the same air of compact self-sufficiency and isolation. The sequence of his American works testifies to his increasing understanding and mastery of the new principles and forms. In addition, these structures were imbued with specific symbolic meanings derived from Blondellian theories, an approach which is confirmed and clarified by comparison with Godefroy's allegorical figure compositions and his designs for engravings and sculpture. The eclecticism of Gothic, Egyptian, and Renaissance elements can be seen as a transitional stage preceding the nineteenth-century revivals and linked closer to eighteenth-century ideas on the expression of architectural character.

Godefroy returned to Europe, spending several years in England (1819-1826) and France (1827-ca. 1840). Extant buildings in Laval demonstrate his ability to work in a manner which was acceptable outside of a leading center like Paris and which moved closer to Durandesque practices.

Godefroy's patrons in America were almost entirely members of an upper class which drew its wealth from urban land speculation and mercantile activities. Although this group was losing political hegemony, it retained social and cultural leadership during Godefroy's residence in Baltimore. Working with and for this influential class, Godefroy was able to advance the cause of professionalism in architecture, joining his efforts with those of Latrobe who also felt the xenophobia of local mechanics and native-born builder-architects. In return for patronage, Godefroy created through his style an architectural expression for that part of the community which maintained a cultural orientation toward contemporary Europe.

THE ARCHITECTURE OF FOUNTAINS AND NYMPHAEA IN ANCIENT ITALY

by NORMAN NEUERBURG

This dissertation attempts to gather all examples of Roman architectural fountains and nymphaea in Italy. Detailed descriptions of these monuments with pertinent bibliography form a catalogue raisonné appended to an extensive discussion of the problems connected with them.

An introduction discusses the religious association of fountains and nymphaea at an early period and the various words in Greek and Latin pertaining to them. It is then shown that the word "nymphaeum"—in spite of its use in Greek to mean a place, usually a spring cave, sacred to the Nymphs—is very rare in Latin until the late second century A.D. and then seems to refer only to monumental public fountains, and our use of the word, as a decorative fountain structure, is based on the Renaissance interpretation of the ancient sources.

There follows a series of chapters discussing the individual types. Their genesis, variations, and subsequent fortune after ancient times are pointed out. The basic type is the cave with a spring which is successively remodeled and elaborated. Rock-cut chambers are one manner of imitating these caves artificially. Chambers which are completely built in masonry symbolically represent the cave, but they are frequently more architectural in nature. Some derive rather from simple rectangular fountain chambers of a purely functional type, but beginning in the late Republic they are elaborated with apses and niches and occasionally are built on a basilical plan. Exedra nymphaea in the form of a semicircle also derive from the cave and appear as early as the chambers. The exedra frequently is articulated with niches and is less intimate in its character. The aedicula is a small version of the exedra and was preferred by those in more modest circumstances. Round nymphaea are a later introduction and are relatively rare, many so-called round nymphaea simply being misinterpretations of structures built for other

purposes. Façade nymphaea, in which the structure is developed in width rather than in depth, are the only ones for which the term *nymphaeum* (in Latin, that is) can be demonstrated in ancient times. They frequently are nothing more than the façade of a reservoir or retaining wall.

In the conclusion it is shown that the cave, chamber, aedicula, and round types were largely limited to private use in homes, palaces, and villas, while the exedra and façade types were chosen for public as well as private use. Their setting is discussed at length and it is shown how this reflects changes in concepts in Roman planning. At first isolated they are then integrated into larger scale complexes. In public fountains the location is often dictated by convenience, but subsequently more attention is paid to visual effect. The various types of decoration used in these structures are then considered, as are the kinds of water spouts and the methods for supplying the fountains. Then the relevancy of certain recurring motifs in fountain architecture to the broader problems of Roman architecture is mentioned. Finally, in summing up, one may point out that the Roman fountains are a fusion of two tendencies, the utilitarian fountain house and the natural cave. The chamber, exedra, and aedicula go back at least to the last century of the Republic while the façade becomes popular in the mid-first century A.D., and the round type comes in even later. Although Greek influences, particularly from Magna Graecia, do exist, all types can be shown to have developed in Italy without any necessary influence from Egypt or Asia Minor.

